Crossflatts Science, Technology, Engineering and Maths (STEM)Competition

This competition relates to the work of Gustave Eiffel. It is important you know a little bit abut him before you start!

What is he most famous for?

He is most famous for being the structural engineer who designed the Eiffel Tower, a famous landmark of Paris, France.

What were his other achievements?

- He began his career building bridges and used mathematics to help find lighter ways for designing structures.
- In the 1890s, he built a viaduct that was the highest in the world for several years.
- He designed and built the structural frame of the Statue of Liberty in New York, America.

Why is this important?

- The tower was built in 1889 and was the tallest man-made structure in the world for 41 years.
- The tower was a marvel because it was made of such a small amount of material for its height.
- The tower is one of the most well-known structures in the world.

Your task is to create the tallest tower you can using the materials below

Create 2 towers made from different materials and then measure the tallest one in centimetres and send your results to Mr Atkins' email: richard.atkins@crossflatts.bradford.sch.uk

The closing date is Monday (May 4th 2020) We will post some of the entries on twitter: @crossflattspri

There will be a 'special prize' for the winner and notable entries once we return to school! Good luck everyone!

(PLEASE TAKE CARE IF USING SCISSORS OR SHARP OBJECTS FOR ANY REASON DURING THIS COMPETITION)

RESOURCES	
GROUP 1	**GROUP 2**
Marshmallows	Midget gems
Spaghetti	Cocktail sticks

You can substitute the resources for similar ones if you wish.

For parents:

The main issue for towers and tall buildings is stability.

Gravity pulls everything towards the centre of the Earth; an unstable structure will have unbalanced forces, causing it to topple in the direction of the greater force.

The taller the tower, the greater its weight and need for greater support. The weight of an object is the force acting on an object's mass due to the pull of gravity. The Eiffel tower is a good example of how to create a stable structure: it has a wider base so that material at the bottom of the tower is able to take the combined weight of the material above it.

QUESTIONS/FURTHER LEARNING

- Which is the tallest tower?
- Which is the most stable tower?
- Which tower do you think is best and why?
- How could you change your tower to make it better?

Where could your learning take you?

- Find out about the work carried out by structural engineers.
- What are your big questions? Can you do some research at home to find answers?
- Use the QR code to find out more about building stable structures.

https://www.youtube.com/watch?v=iGRLY08Kn2o