

Christmas Tree Construction

It might not be Christmas but how about making a Christmas tree and learning a little bit of engineering somewhere along the way.

What do I need:

- Kebab skewers
- Marshmallows or other soft sweets

How do I do it?

STEP 1 - Take 3 kebab skewers and 3 marshmallows and connect them together to form the base of your Christmas tree.

Make sure to take a bit of care with this experiment as the ends of the kebab skewers can be sharp.

STEP 2 - This is where things can get a little tricky. Use 3 more kebab skewers and an extra marshmallow to construct a pyramid shape on top of your triangular base.

STEP 3 - Use your pyramid as your base and your very best engineering skills to put your tree shape together.

STEP 4 - Use a marshmallow between 2 kebab skewers to assemble 3 longer side pieces.

STEP 5 - Connect these longer pieces together and to the pyramid base to form your Christmas tree.

What's going on?

How is it that your Christmas Tree Construction is able to hold itself together? On a simple level the sticky, yummy, gooeyness of your marshmallows causes the kebab skewers to stick together but why is it that the whole thing can stand up?

This is a fun way to learn all about forces and construction. We've got good old gravity trying to pull our Christmas tree to the ground and the forces within the kebab skewers battling it out to hold our tree up. A triangle is a very strong shape.

Experiment with your construction ideas to see what works and what doesn't!

More Fun Please - Experiment like a real scientist!

- What do you think is the optimal design?
- How high can you build your Christmas tree?
- You could have a competition to see which Christmas tree design can support the most weight!
- Try not to eat all the spare marshmallows!

