

Build a spaghetti pyramid

Become a structural engineer and build a 3D pyramid using spaghetti and marshmallows.

What you need

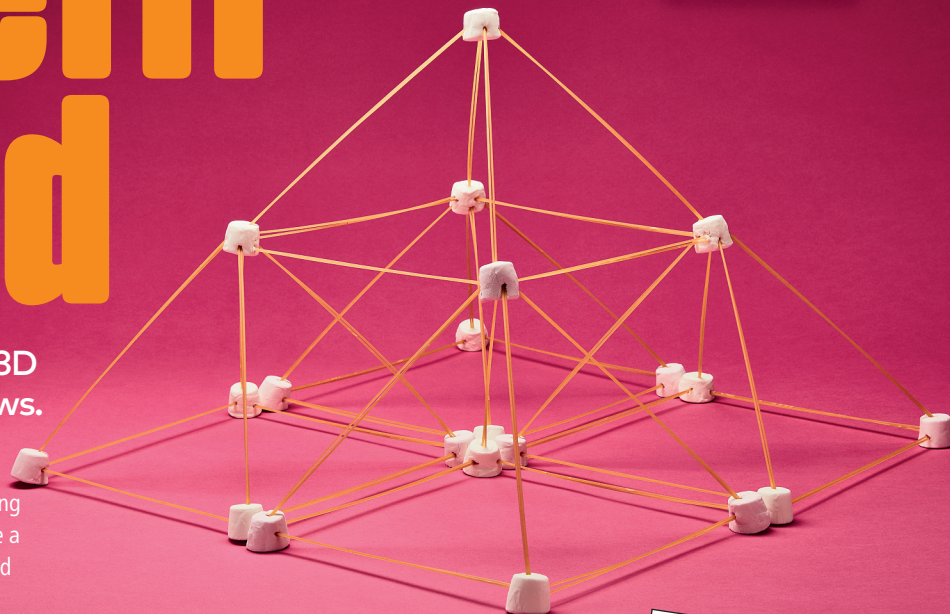
- 1 packet of dry spaghetti
- 1 bag of marshmallows

How does it work?

Spaghetti and marshmallows are not strong on their own, but together they can create a solid structure. Spaghetti breaks easily and although marshmallows cope better with compression (squeezing forces), they don't manage tension (pulling forces) well. A pyramid shape spreads loads over a wide area. When it comes to building high structures, a pyramid is an extremely stable shape because most of the weight is at the base.

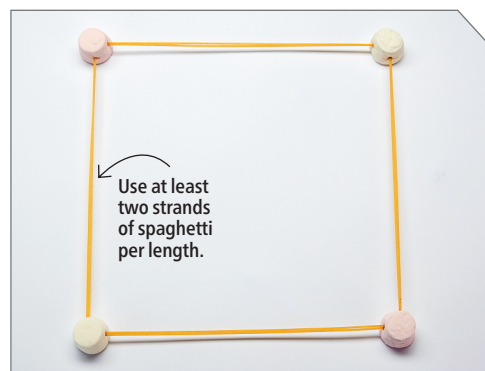
DID YOU KNOW?

The Pyramid of Djoser is the oldest confirmed pyramid in Egypt. Its stable structure has allowed it to stand for almost 5,000 years.

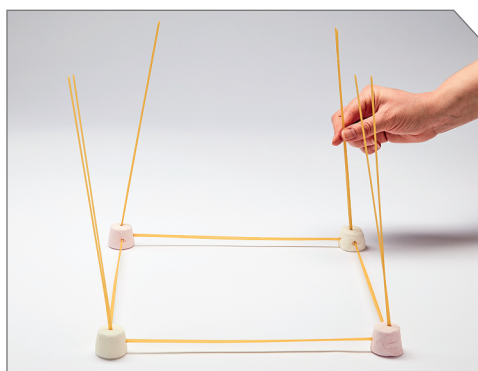


TOP TIP

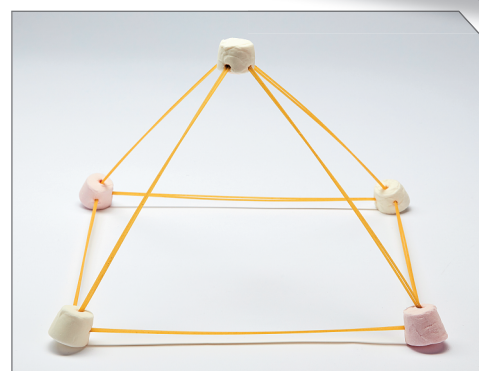
We found that the marshmallows work better if the wider end is at the bottom.



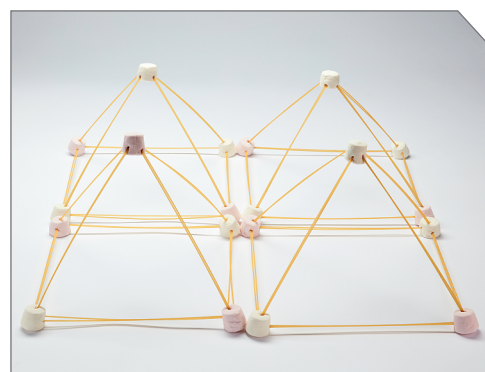
1 Create the base of the pyramid by connecting eight spaghetti strands with four marshmallows.



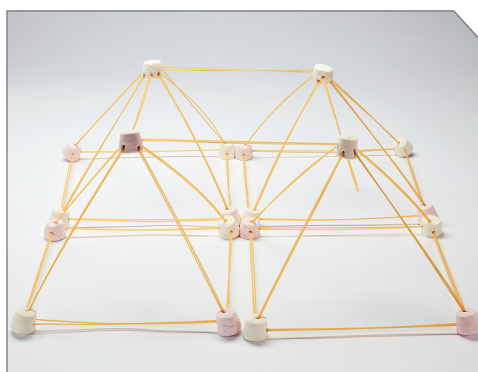
2 Stick two strands of spaghetti into each marshmallow vertically.



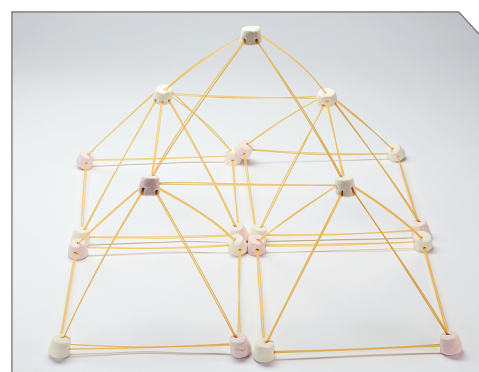
3 Bring the strands of spaghetti together at the top and secure in place with a marshmallow.



4 Repeat steps 1–3 to create three more pyramids, then arrange them in a square shape.



5 Connect the tops of the four pyramids to make a square. Use two sticks of spaghetti per length.



6 Finally, build a fifth pyramid on top, using the square you made in step 5 as its base.