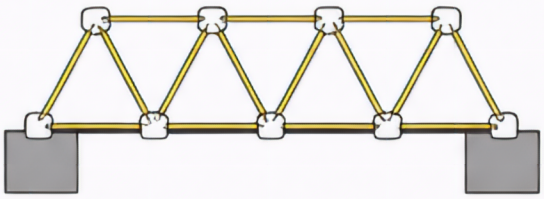
HOMESCHOOL SCIENCE LAB

BUILDING A BRIDGE

WITH SPAGHETTI AND MARSHMALLOWS



BIG QUESTION: How can the shape and structure of a bridge help it hold more weight?

HYPOTHESIS:

I think my bridge will _____

because _____.

MATERIALS:

- Spaghetti sticks (uncooked)
- Mini marshmallows
- Books or blocks (for supports)
- Stack of coins or small weights
- Ruler or measuring tape (optional)

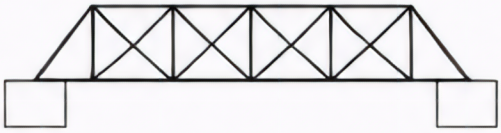
PROCEDURE:

1. **Set up your bridge supports.** Use two stacks of books or blocks about 20–30 cm (8–12 in) apart.
2. **Design your bridge.** Plan the shape and structure you will build.
3. **Build your bridge** using spaghetti sticks and marshmallows. Make sure the bridge sits on the supports.
4. **Let** your bridge set for a few minutes so the marshmallows hold firmly.
5. **Place weights** (coins or small objects) in the middle of the bridge, one at a time.
6. **Count** how many weights your bridge can hold before it breaks or collapses.

TIPS FOR STRONG BRIDGES:

- ★ Triangles are very strong!
- ★ Make sure the bridge is balanced.
- ★ Use as many connections as you can.
- ★ Keep your base wide and sturdy.

EXAMPLE: TRUSS BRIDGE



TEST YOUR BRIDGE:

I used _____ as my bridge design.

The number of weights my bridge held was _____.

My bridge collapsed when _____.

WEIGHT ADDED (Coins or Objects)	BRIDGE STATUS
1	
2	
3	
4	
5	
...	

OBSERVATIONS / RESULTS:

What worked well? What did you notice?

_____

_____

_____

_____

_____

CONCLUSION / REFLECTION:

Why do you think your bridge held the amount of weight it did?

_____

_____

What would you do differently next time?

_____

_____

What did you learn?

_____

★ **EXTENSION CHALLENGE:** Can you build a bridge that holds more weight? Try a new design and test it!