



SCIENCE EXPERIMENT

TESTING WHICH BRIDGE SHAPE HOLDS THE MOST WEIGHT

Name: _____

Date: _____

Experiment #: _____

QUESTION

Which bridge shape can hold the most weight?

HYPOTHESIS

I think _____ bridge will hold the most weight because _____

MATERIALS

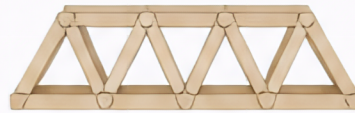
- Craft sticks or straws
- Glue or tape
- Cardboard or books (for supports)
- Flat board or stack of books (bridge base)
- Weights (coins, washers, or small objects)
- Ruler or measuring tape
- Notebook and pencil



BRIDGE SHAPES TO TEST



BEAM BRIDGE
(Flat)



TRIANGLE TRUSS BRIDGE
(Triangular)



ARCH BRIDGE
(Arched)

* Build each bridge to the same length and width.

PROCEDURE

1. Build three bridges using the same materials and the same dimensions.
2. Place each bridge across two supports (books or stacks) with a gap in between.
3. Place one weight at the center of the bridge.
4. Add more weights one at a time, stacking in the center.
5. Count how many weights the bridge holds before it breaks or collapses.
6. Record your results in the data table below.
7. Test all three bridge shapes.

DATA TABLE

Bridge Shape	Number of Weights Held	What Happened?
Beam (Flat)		
Triangle Truss (Triangular)		
Arch (Arched)		

OBSERVATIONS

What did you notice while testing?

CONCLUSION

Which bridge shape held the most weight? _____

Why do you think this shape was the strongest?



THINK LIKE A SCIENTIST! Engineers use shapes and structures that are strong and stable to build safe bridges. What other shapes could you test? How could you make your bridges even stronger?