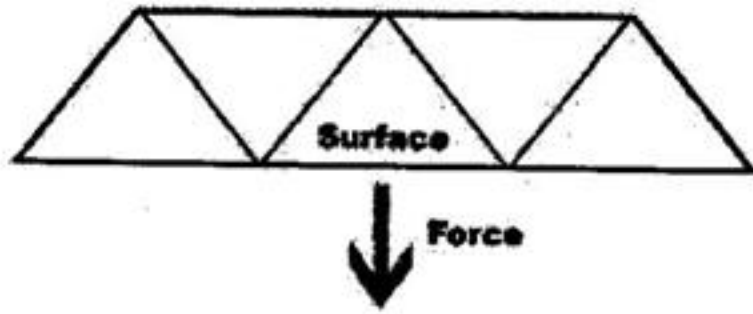
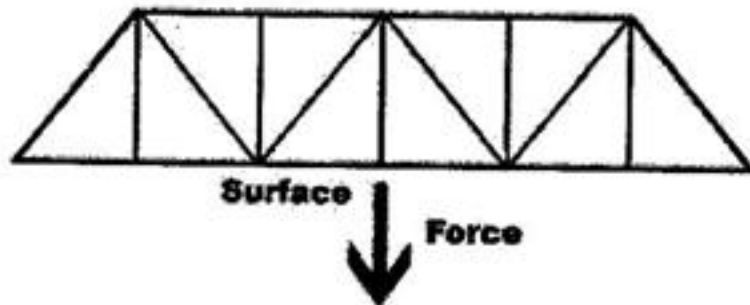


ONE SAMPLE!



**Warren Truss Bridge**

- A common bridge design was the Warren truss bridge patented by James Warren and Willoughby Monzoni in 1848.
- The diagonal braces of this design point both towards and away from the midpoint of the bridge.
- Thus they experience both tension and compression stresses as a load, such as a train, crosses from one end to the other.



**Warren (vertical support)  
Truss Bridge**

- Similar to the above Warren Truss Bridge, the vertical supports at greater stability and strength.
- When building your toothpick bridge, be sure to include these vertical struts. It really makes a difference.

- Build a "Toothpick" Bridge with your family
- Bring back Sunday, Jan. 2<sup>th</sup>, 2019
- Must be at least a foot long - in a design of your choosing
- Glue - your choice • Use only toothpicks
- May view samples online

Toothpick Design Copyright © 2008

Source: <http://www.toothpickdesign.com/trusstoohpickbridges.htm>