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Boat Design Challenge

The Problem: The Mississippi Cookie Company transports their cookies from their factory in Minneapolis, MN to their distribution center in New Orleans, LA. Since the route is over 1,400 miles on the Mississippi River, it is important to ship as many cookies as possible each trip. Their largest barge was damaged in a recent storm, and they need to replace it with another water-craft that will support the weight of thousands of boxes of cookies.

The Challenge: A representative from the Mississippi Cookie Company has contacted you to design a model of a boat that will support enough weight to transport their cookies from Minneapolis to New Orleans.

The Materials: You must construct your model boat using the following materials: Lollipop sticks, aluminium foil and PVA glue. You may also use any of the following optional materials: plastic straws, corks, paper. Remember that a big part of this challenge is to create a model that will support weight and be economical to build. Decide which materials you want to use wisely! The optional materials are expensive!

The Cost: Your boat must be cost efficient to build. You have a budget of **£1000** to build your boat. Using the cost of materials below, calculate the cost.

- Lumber (lollipop sticks) = £50 each
- Sheet Metal (aluminium foil) = £25 per 30cm x 30 cm sheet
- Welding materials (PVA glue) = £50 per 250ml bottle
- Reinforcements (plastic straws) = £25 each
- Buoys (corks) = £50 each
- Cable/rope (masking tape) = £10 per inch

Brainstorm, Design and Build!

What design do you think would be the best for this challenge? Sketch your boat design and brainstorm some ways that you think might make it strong enough to support the most weight and be the most economical to build. Build your model and test it to see if you will get the job!

https://www.educationworld.com/sites/default/files/build-a-boat.pdf