



Build a Barge Challenge

Problem

Energy on the Move Shipping Co. needs to update their fleet of barges. They are looking to award a barge building contract to a company that shows they have reliable, efficient, and economic barges. Your bid should include a specific barge design, and data that shows your maximum carrying capacity.

Details

Your barge dimensions must be:

Width = 3.1" x length = 15" x depth = 1.5"

Budget: \$10.00

Purpose

- Construct a barge that will carry a maximum load in the water.
- Stay within your construction budget (\$10.00).
- For each 100 tons you carry you will be paid \$2.00.

Procedure

1. In your science notebook, brainstorm at least two barge designs and share your designs with your team.
2. Choose one design to move forward with. Draw a diagram of the team’s design in your science notebook and explain why you think this design will be successful.
3. As a team, “purchase” your supplies and record your transactions on your budget sheet. (Hint: You may want to save some money so that you can purchase extra supplies should you need to revise your design.)
4. Build your barge.
5. Conduct at least three trials to test your design. Record your results in your science notebook.
6. Make any revisions to your design that your team thinks would improve your results, and that you can afford.

Building Center – Cost Sheet

ITEM	AMOUNT
Tape (6 inches).....	@ \$0.05
One plastic cup	@ \$0.50
Aluminum foil (12" x 6")	@ \$0.40
Staple (only one staple)	@ \$0.05
Construction paper (11" x 5")	@ \$0.30
Straw	@ \$0.20
Foam board (24" x 6").....	@ \$5.00
Cardboard (24" x 6").....	@\$3.50
Poster board (24" x 6")	@\$2.50
Corrugated plastic (24" x 6")	@\$5.50

