

Step	Show Math with all units of measure. No units, no credit!	Answer
4. Recalculate surface area of your barge design. Show all formulas and math.		_____ SQ. IN.
5. Recalculate volume of your barge design. Show all formulas and math.		_____ CU. IN.
6. Determine the number of cubic inches in a cubic foot		_____ Cu. In.
7. Convert the barge volume in cubic inches to cubic feet.		_____ Cu. Ft.
8. Determine the pounds of water the barge must displace to sink.		_____ lbs. of water
9. Convert pounds to ounces by multiplying.		_____ oz.
10. Determine the mass of the barge in grams using the scale.		_____ g
11. Convert grams to ounces by multiplying.		_____ oz.
12. Determine the allowable penny load by subtracting the weight of the barge from the weight of the displaced water.		_____ ounces of pennies
13. Determine the number of pennies the barge will hold by converting ounces of pennies to pennies.		_____ pennies
14. Convert to dollars.		\$ _____

Record actual number of pennies to sink barge when tested in water tank. _____ pennies

Record estimate and actual penny numbers on homeroom sheet.

Reflection

If number of actual pennies and calculated pennies are not equal, explain **why** below.

Describe any mishaps in penny load calculations. (5)

Describe any mishaps in vessel construction. (5)

Describe any mishaps with the testing. (5)

Include other scientific phenomena that could aid in buoyancy. (5)