

EVENT 4: BARGE BUILDING

(As of 10/26/11)

OBJECTIVE: To design and construct a barge that will support the greatest mass.

RULES:

- a. The team will construct the barge at the time of the competition.
- b. The barge is to be constructed from one sheet of heavy duty Reynolds, or similar brand, aluminum foil with dimension of approximately 15 cm x 15 cm.
- c. The team is not required to use the entire sheet of foil to construct their barge.
- d. No other materials may be used to construct the barge.
- e. The team will provide the foil to construct the barge.
- f. The team will be provided with recent US pennies.
- g. The teams will be allowed 8 minutes and 15 seconds for the entire event, 3 minutes to assemble their barge, 4 minutes and 15 seconds to test the barge and 1 minute to count the number of pennies supported by the barge.

COMPETITION AND SCORING:

- a. Each team will be allowed 3 minutes to assemble their barge. After 3 minutes the judge will signal the teams to place their barge in the water. The barge must float for 15 seconds.
- b. After 15 seconds, the team will have 4 minutes to add as many pennies, slowly one at a time, to their barge without the barge sinking.
- c. If the barge does not float, then the score will be zero.
- d. If the barge floats but does not hold pennies, the team will earn the disqualification score.
- e. After 4 minutes, the judge(s) will signal the team to stop adding pennies to the barge, instruct the team to remove their barge from the water and start counting the number of pennies added.
- f. If the bridge sinks while pennies are being added, the team will subtract one penny from the total number of pennies supported by the barge.
- g. The winner of the event will be the barge that supports the greatest mass of pennies.

$$SCORE = \frac{(Your\ mass)}{(Winning\ mass)} \times 100\ points$$

DISQUALIFICATION SCORE = 10 points less than the lowest score for a qualifying barge but not less than zero.