

Foil Boat Competition



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Mystic Seaport October 15- 18, 2013

Teaching With Small Boats

Conference

Demonstrating Archimedes' Principle

Archimedes' Principle states that the buoyant force acting on a submerged or floating object is equal to the weight of the fluid that the object displaces.

Therefore, the more displacement a boat has, the more weight it will be able to carry without sinking.

This can be demonstrated by constructing a boat out of tin foil and competing to see whose design can hold the most weight before sinking. Participants must consider how to design a boat for maximum displacement and static stability.

Experience Format

This exercise works well as a competition. Participants can work individually or as small teams of 2-4.

- Explanation of Archimedes' Principle
- Hand out 1 square foot of tin foil per team
- Teams construct their boats
- Each team loads their boat with golf balls until the boat sinks
- A record is kept of the number of golf balls that the boat held without sinking
- Discussion of design differences

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