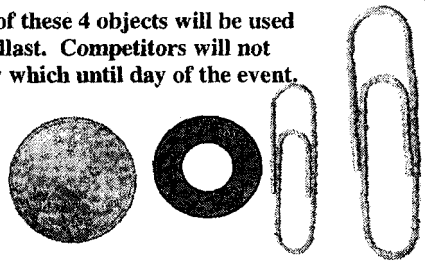
SCIENCE OLYMPIAD

Exploring the World of Science

BARGE BUILDING

One of these 4 objects will be used as ballast. Competitors will not know which until day of the event.



Description:

The purpose of this event is to construct a barge using aluminum foil that can support a cargo of the largest number of objects without getting them wet. Each team will construct a barge of aluminum foil that can support a cargo. They will predict the amount of cargo the barge will hold and will load cargo until the barge takes on water.

Number of Participants: 2 person teams

The Competition: Approximate Time: ~~30~~ 40 minutes

1. Student participants (**only**) will meet at the event location from ~~8:20~~ 8:25 – 8:45. Once the students arrive, to figure and impound their estimates. This impounding of predictions will allow the event to stay an 'OPEN' event throughout the rest of the day. Once the student arrives at the event location that may not leave until 8:45.

2. Each team of two persons will be given a 15 x 15 cm piece of aluminum foil by the event supervisor. Each team will then be given 10 minutes to construct their barges and turn them into the supervisor. No other materials may be used in building the barge.

3. Each team will then be given 5 minutes to load their barges.

4. The event supervisor will inform each team of the average mass of each cargo piece before they begin their ~~construction~~ estimation. The cargo may be pennies, washers, paper clips, marbles, or other similar objects. The cargo will not be known until the time of competition.

5. The student barge captain and his partner must predict the number of pieces of cargo that the barge will hold. The barge must then be loaded until it sinks. The piece that caused the barge to sink will not count in the total cargo. Sinking occurs when water enters the barge.

6. The event supervisor will provide the barge captain with the cargo to be loaded. Each piece must be loaded one at a time while the barge is floating in a pan of water.

Scoring:

The winner will be the team with the highest score. The score will be determined by the following formula: Amount of cargo held x 10 - the difference between predicted amount and actual amount. For example: if the team predicts their barge will hold 70 pieces and it sinks at 57, their score will be 57 x 10 minus the difference between 70& 57 which is (570-13 = 557) points. Ties will be broken by accuracy of the prediction. If the judges determine that a contestant intentionally sinks his boat at or near the predicted number, that team will be disqualified and receive participation points only.