



Engineering Institutes: **Boat Building Challenge**

Materials:

- Cardboard
- Straws
- Aluminum Foil
- Tape
- Scissors
- Popsicle Sticks
- Container filled with water
- Pennies, washers, etc. to act as weights

Procedure:

1. Students will construct a boat out of recycled materials to see which boat will be able to stay afloat with added weight. Have the student make a prediction if their boat will sink or float.
2. After the students are finished building their boat, a tub of water will be given to the students to first test their boat without weight (if it floats, weight can be added; if it sinks they make adjustments and try again).
3. Ask the students what happened to their boat. If it sank, how can they change the design so the boat can float? If it was able to float, add more weights.

The Science Behind It:

Buoyancy is an object's ability to sink or float. An object floats when the upward force of buoyancy is equal to the downward force of gravity.