

# HYDRODYNAMICS

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## PURPOSE

Allow students to demonstrate their ability to design and construct a boat to travel through water, powered only by a sail and a box fan.

- Submit a complete set of sketches for the boat detailing each part with basic dimensions. These sketches are to be completed on 8 1/2" x 11" paper.
- Although the sail may be altered, a 6" x 6" sail may be the only means of power for the vehicle using the standard box fan.
- The sail must accompany the boat the full length of the course. The course will be 12' long, 12" wide & 3" deep. It will be a wood frame, lined with plastic.
- The sail may not be attached to anything outside of the boat.
- The boat must stay in the water the full length of the course.
- The maximum size of the boat will be 3.5" wide x 8" long x 2" above the water. The boat and all parts of the boat must stay within the dimension limitations for the entire length of the course.
- If the boat does not meet the specifications, points will be deducted from the final score.
- No kits are allowed; the student must create the vehicle.

## PROCEDURE

- Each participant will be allowed to race his or her boat three times.
- A race off will be held in the case of a tie.

## EVALUATION

The craft will be evaluated based on the rubric on the following page. In the event of a tie after testing, ranking will be determined by the most economically-produced model. Mr. Allison will make this determination.