Name(s)	Project Number
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Project Title

Sailing into the Future: The Racer's Edge

Abstract

Objectives/Goals
My objective was to get my boat to be able to go its fastest up wind. To do this, I needed to find what wind condition and sail position , of several made each sail shape move the boat with the most forward force.

Methods/Materials
Aluminum for the sails, non-stick pan for the water, wood shaped as a boat, a big drier for the wind. Rigged the pan with rubberbands so that the boat could move in all directions. I put different wind shapes in wind channels that were at certain angles, to see which sail worked best at these angles. The boat and pan never changed. The drier that we used was the same for all the sails. If one gets a slightly different reading it may be because of the lining up of the drier with the angles.

Results
Sail number 1 was best overall in all of the wind conditions, that I set. Sail number 2 was second. Sail number 3 was third and sail number 4 was last, in the conditions that I had chosen. Sail number one was best for up wind. Sail number 2 is not a sail you usually want to have. You might use it in when the wind changes direction a lot and you don't know where the wind is going to be coming from. Sail number 3 is used when it is really windy and you can't keep the boat flat. The sail lets air spill out. Sail number 4 is what a sail might look like going down wind.

Conclusions/Discussion
My data supported my hypothesis for four out of four of the sails. To improve my project I would make the boat and sails bigger and make sure that they are built to scale. In doing this I would get more accurate readings. I would also make different wind conditions. I could try the sails down wind and on reaches. It helps me to choose which shape to put my sail in at what times.

Summary Statement
My project is about how I can make my boat go as fast as possible.

Help Received
Grandfather helped me make my set up and hold the wind at the angles so I could take the readings.

Ap2/02