

The Strongest Boat

Sunshine State Standard SC.H.1.2.2

The student knows that a successful method to explore the natural world is to observe and record, and then analyze and communicate the results.

Materials

2 sheets of typing paper (1 for practice, 1 for the final design)

1 roll of scotch tape

pennies

container of water (put some blue food coloring in the water to make it look like "the ocean")

balance scale

What to do

Before the activity, group students into teams of 3-5 students. Then tell students the following: 1.Using one sheet of typing paper and the tape, design a boat with your group. You may try different designs using one sheet of paper, but your final design must be made from only one sheet of paper. 2.Your boat must be able to fit inside the testing container, hold as many pennies as possible, and still float. 3.We will test each boat and determine how many pennies each will hold. 4.You may not test any part of your boat in the water until the actual testing begins. 5.Each group will display their boat before the testing begins, give the name of their boat, explain their design to the group, and estimate the number of pennies it will hold. 6.The winning boat will be the one that holds the most pennies and still floats. 7.Have each group weigh the number of pennies their boat held. 8.Make a class data table that includes: group name, boat name, estimate of pennies held, actual number of pennies held, weight of pennies held. Create a class graph of the information. 9.Have students analyze their designs and discuss: strengths and weakness of the design, changes that should be made, how they would make better use of the materials, etc. 10.All of the information should be recorded in science journals.

Additional Information

EXTENSIONS: 1.Scale diagrams and dimensions - determine surface areas of each boat. 2.Observe effects of different variables: saltwater vs. freshwater, warm water vs. cold water, etc.

3.Discussion or Field trip to port or boatyard to observe how designs of boat is based on use/function of boat

Submitted by

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