

Abstract Submitted
for the NEF09 Meeting of
The American Physical Society

Multiple Representations of Buoyancy JESSICA OLIVIERA, MEREDITH WEGLARZ, JAMES VESENKA, University of New England — For many students the concept of buoyancy falls under a category that can be loosely described as “knowing it when they see it.” Unfortunately some of the misconceptions this generates are that “objects float because they are light” and “objects float because they are full of air” [1]. Those these can some times be true, these descriptions are vague at best, and frequently can be wrong. Part of these misconceptions may stem from incomplete immersion of the object in the fluid and the vector nature of forces. We describe a demonstration/lab activity to help students make sense about relationship between the tension on and weight of an object immersed in water. The activity is in rich in multiple representations, graphical, diagrammatical as well as mathematical. A simple four question multiple choice pre/post test survey has been developed to evaluate the effectiveness of the lab activity.

[1] Bruce Harlan “Diving Science”,
www.stmatthewsschool.com/deep/pdfs/Diving%20Science.pdf

Jessica Oliviera
University of New England

Date submitted: 07 Oct 2009

Electronic form version 1.4