Lesson plan for *Buoyancy*: How Does Buoyant Force Act on Objects in a Fluid?
http://phet.colorado.edu

Learning Goals: needs
Students will be able to:

1. Use combinations of tools to find density of both liquids and solids
2. Describe the forces that act on a completely or partially submerged object
3. Describe what *Buoyancy* is and how it affects the *apparent weight* of an object in a fluid.
4. Predict whether an object will sink or float when placed in a liquid, given densities of the object and liquid
5. Predict the *apparent weight* of a completely or partially submerged object of known mass and volume in fluids for which the density is known

Background:
My students are in Honors Physics, a first year junior level high school course with a pre-requisite of B or better in math and science and minimum math concurrent enrollment in Algebra II. They will have done an activity with the Density sim and read some materials in their texts. See my webpage for more information about scope and sequence of this unit. http://jeffcoweb.jeffco.k12.co.us/high/evergreen/science/loeblein/phys_syl/Sem2Unit5.html
The students did my Density activity, https://phet.colorado.edu/en/contributions/view/3406, the day before this one.

***Buoyancy* Introduction:**
I used the Teacher Tips http://phet.colorado.edu/files/teachers-guide/buoyancy-guide.pdf to see what I might need to know about the tools. I did not see the need to show the students anything.

Lesson:
I plan to use this as an introductory lesson to Buoyancy . They will do Balloons and Buoyancy activity afterwards https://phet.colorado.edu/en/contributions/view/3407.