

Name \_\_\_\_\_

Due Date \_\_\_\_\_

HB \_\_\_\_\_

Forces and Motion Science Project

**Floating and Sinking Laboratory Report**  
*Scientific Investigation of Buoyancy and Density*

OVERALL COMPREHENSION SCORE:

OVERALL APPLICATION SCORE:

Novice <i>begins to approach expectations</i>	Apprentice <i>approaches expectations</i>	Proficient <i>meets expectations</i>	Distinguished <i>exceeds expectations</i>
<input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p><u>Content</u></p> <p>Abstract</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Contains a brief description of the experiment.</li> <li><input type="checkbox"/> Summarizes hypothesis and results.</li> </ul> <p>Introduction</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Explains experiment to the reader. (<i>What was I doing?</i>)</li> <li><input type="checkbox"/> Tells the significance of the experiment. (<i>Why are we doing it?</i>)</li> <li><input type="checkbox"/> Includes guess and hypothesis. (<i>What did I think would happen? What did I calculate?</i>)</li> <li><input type="checkbox"/> Explains volume and mass and density.</li> <li><input type="checkbox"/> State the relationship between volume, mass, and density. (<i>What is the equation</i>) (8.P.2)</li> <li><input type="checkbox"/> Explain why some objects sink while others float in water. (<i>Focus on the density of objects verses the density of water.</i>)</li> <li><input type="checkbox"/> Explain the buoyant force.</li> </ul> <p>Materials and Methods</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Describe how you made your boat</li> <li><input type="checkbox"/> Discuss the reasons why you constructed your boat the way you did.</li> <li><input type="checkbox"/> Describe how your boat was tested. (8.T.2.1)</li> </ul> <p>Results</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Includes measurements and calculations.</li> <li><input type="checkbox"/> Describe the testing process (how many pennies did your boat hold? What happened when the density of your boat approached 1g/mL? What happened when the density of your boat passed 1g/mL?)</li> </ul> <p>Discussion</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Discuss why, as volume increases, the amount of mass a boat can carry increases.</li> <li><input type="checkbox"/> Describe the reasons that your guess and your hypothesis did not match your results.</li> <li><input type="checkbox"/> States how the experiment should be changed if performed again with a smaller amount of aluminum foil. Describes why these changes would help the boat carry more mass.</li> </ul>	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p><u>Quality and Format</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> No spelling or grammar errors exist in your writing</li> <li><input type="checkbox"/> All work handed in on time.</li> <li><input type="checkbox"/> Appropriate units are found in procedures and results (mL, grams, etc.)</li> </ul>	

Floating and Sinking Laboratory Report  
Steps to Success

1. Did you explain what volume, mass, and density are?	<input type="checkbox"/>
2. Did you explain the difference between mass and weight?	<input type="checkbox"/>
3. Did you write a detailed materials list for the design challenge?	<input type="checkbox"/>
4. Did you write detailed procedures?	<input type="checkbox"/>
5. Did you write a results section with units included and an explanation of what you measured and why it's important? Did you include diagrams?	<input type="checkbox"/>
6. Do your conclusions for the experiments that demonstrate knowledge of density, mass and weight and make a reasonable explanation about why the hypothesis is true or false?	<input type="checkbox"/>

## Teacher Comments and Suggestions

**You did a great job on this!**

**Things that can be revised**

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Date