Dunkin’ for Density

Procedure:
1. Find the mass of your empty film canister.
2. Using the materials at your desk, modify the film canister so that it will float, suspend, or sink in the container filled with water.
3. Once you have made the canister either float, suspend, or sink, call your teacher over to verify and then record your data.
4. Using your “sinking” canister, determine the volume of the canister.
5. Calculate the density for each using the formula $D = \frac{M}{V}$

Data Table: Mass, Volume, and Density of film canister

<table>
<thead>
<tr>
<th>Film Canister</th>
<th>Mass (g)</th>
<th>Volume (cm$^3$)</th>
<th>Density (g/cm$^3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Float</td>
<td></td>
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<tr>
<td>Suspend</td>
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<td></td>
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<tr>
<td>Sink</td>
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</tr>
</tbody>
</table>

Analysis and Results: Use complete sentences for full credit
1. What is the mass of the empty film canister?
2. Did the mass of the film canister change at all? Explain.
3. Did the volume of the film canister change at all? Explain.
4. What caused the canister to stay at the different levels in the water? Explain what caused the canisters to float, sink, or suspend using the term density.
5. Share your data with the class. We will graph the results.

Conclusion: 2-3 sentences on what you learned.