

Why do objects float and sink?

Handout – Approach Two

Fill in this table using measurements taken during your experiment

OBJECT/ SUBSTANCE	MASS/ g	VOLUME/ ml	DENSITY/ g/ml	OBJECT/ SUBSTANCE	MASS/ g	VOLUME/ ml	DENSITY/ g/ml
Metal Ring Alone				Water displaced			
Metal Ring plus balloon				Water displaced			
Polystyrene ball alone				Water displaced			
Polystyrene ball and coin				Water displaced			

Provide the answers to the questions below using information from the table to help you

1. What is mass of your object before and after you modified the objects?
2. Has the mass changed compared to the volume of the object? Explain your answer.
3. Do you think the density of the object has changed? Explain your answer.
4. Do you think the density of the water which the object occupies has changed? Explain your answer (*use your idea of mass, volume and displacement by the object*).
5. Compare the density of the object with the density of the water (before and after) to discover if there has been a change in their densities?
6. Indicate how this change brought about sinking and floatation.
7. If metals will generally sink, why is it that ships made of metal can float?