

Density Column Lab – Part 1 Worksheet

To improve groundwater quality, it is vital to for environmental engineers to know all of the physical and chemical properties of the contaminants. Important chemical properties are density and hydrophobicity, as they determine the best way to remediate contaminated sites.

1. Before starting the lab activity: **What are your density predictions?** Rank the following items based on their predicted densities (1 = least dense, 4 = most dense).

- ____ marble
- ____ wooden stick
- ____ pasta
- ____ crayon

2. Why did you rank the items this way?

Data Collection

Use the triple beam and graduated cylinder to calculate the following information:

Object	# of Objects	Mass of Objects	Average Mass of 1 Object	Initial Volume	Ending Volume	Volume of Objects	Average Volume of 1 Object	Density
wooden stick								
marble								
crayon								
pasta								

Analysis and Questions

3. Now that you have performed the lab activity, rank the following items based on their known densities (1 = least dense and 4 = most dense)

____ marble

____ wooden stick

____ pasta

____ crayon

4. Were your predictions correct? What did you learn about mass and density?

5. Create a graph of the densities of the different objects. Discuss why objects had larger densities and how the volume and mass both affect the density.