Name_____

Water Marbles Worksheet

Data Table

	Before hydration	After 24 hours of soaking in DI water	Calculated
Water marble diameter (mm)			
Average mass of one water marble (g)			
Mass of water marble sample (g)			
Number of water marbles in sample			

Discussion Questions, Analysis, and Calculations

1. Assuming that the final volume of a hydrated water marble is due to water (the initial volume of the marble is negligible), use the mass of water gained by an average marbled to calculate a) the average volume of the hydrated water marble and b) the average radius and diameter of a hydrated water marble. (*Hint:* The volume of a sphere is given by $V = 4/3 \ \pi r^3$).

2. Compare the calculated diameter of a hydrated water marble with the measured values. Were they relatively equal? Why or why not?

3. Why are the water marbles relatively invisible in water but not in air?

4. A scientist is designing a new experiment. The idea is to make a borosilicate glass beaker to "disappear" inside a solution. What information would be needed before a recommendation can be made as to which solution should be used?