FLINN SCIENTIFIC

Name_____

Pythagoras Cup Worksheet

Post-Lab Questions

1. The static pressure of a fluid is calculated with the equation

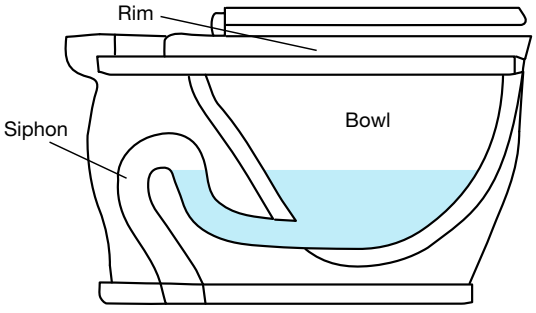
$$P_{static} = \rho g h \qquad \text{Equation 1}$$

where ρ is fluid density, g is acceleration due to gravity, and h is the depth of the fluid in the container. With this relationship in mind, would a Pythagoras cup filled with mercury empty itself out in the same manner as water? Filled with alcohol?

2. If you had the same cup filled with water to a height below the height of the center column (see Figure 1), what happens to the water? What would happen if a tiny vacuum were attached to the straw to pull a short column of water just into pipe B and then the vacuum was immediately detached?

3. In your own words, explain Bernoulli's principle.

4. Examine the image below:



This toilet has no tank and therefore no flush handle. In your own words, describe how you could flush the toilet completely without the water tank.