

Hydrostatic Fluid Pressure

Objective: To determine the relationship between fluid pressure and depth

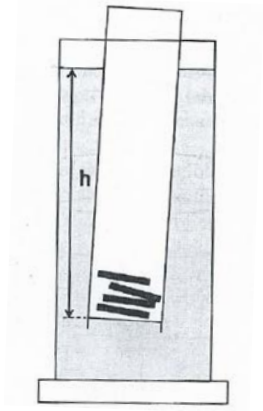
Materials: Vial/plastic cylinder, pennies, electronic balance, large beaker, ruler

Pre- Lab:

- 1) If the cylinder and pennies float as shown in the diagram to the right, how could you find the force that is pushing the cylinder up? _____

- 2) What measurements do you need to record if you want to ultimately graph fluid pressure vs. depth? Remember that you only record data in a table and you shouldn't put any calculated values in this table. _____

Data: Using a ruler, construct a data table for the lab making sure to clearly label the table and include the units of measurement.



Data Analysis: Construct a new table of the value you will be graphing . . . pressure and depth.

Place a copy of the graph here

- 1) Describe the relationship between pressure and depth? _____

- 2) If the density of water at 20° C is 998 kg/m^3 and the acceleration due to gravity is 9.80 m/s^2 , does the pressure follow the expected relationship using the equation we discussed in class? Justify your answer.