FLINN SCIENTIFIC

Name________________________________

Data Table 2.

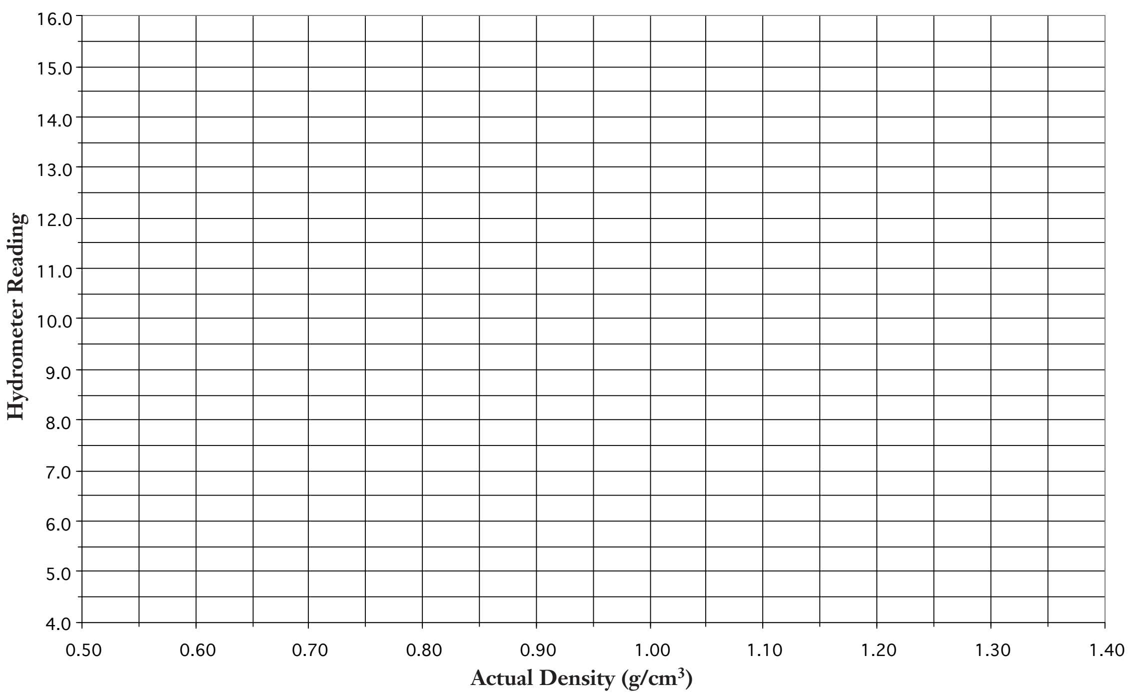
Liquid	Hydrometer Reading	Actual Density (g/cm^3)
Distilled water		1.00
70% Isopropyl alcohol		0.87
NaCl solution, 20%		1.15
		Density (g/cm^3)
Unknown solution #1		
Unknown solution #2		

Build Your Own Hydrometer Worksheet

Determining the Identity of an Unknown Using a Calibration Curve

1. Plot the values of the hydrometer reading and the actual density for each of the three known calibration liquids in the following calibration curve.
2. Use a ruler to draw a best-fit straight line through the data points. Extend the line in each direction.

Calibration Curve



3. Locate the unknown solution 1 hydrometer reading on the y-axis. Locate this reading on the best-fit line, then determine the corresponding density reading for this point on the x-axis. Record this value in Data Table 2.
4. Repeat step 3 for unknown solution 2.

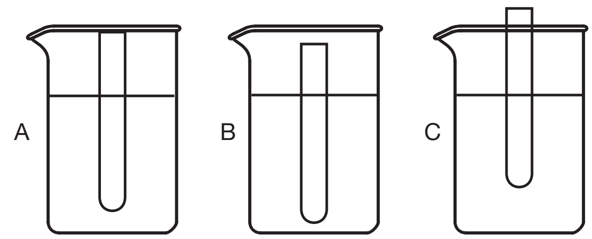
Post-Lab Questions *(Use a separate sheet of paper to show calculations and answers to Post-Lab Questions.)*

1. Review the Densities of Various Liquids Table to determine the identity of each unknown solution. Select the closest match for each unknown solution density. Record the identity of each unknown solution below.

   Unknown solution 1 ________________

   Unknown solution 2 ________________

Refer to the following diagram to answer questions 2–4.



2. In which beaker would the solution contain the most glucose?

3. In which beaker would the solution contain the least glucose?

4. Explain your reasoning for the answers to Questions 2 and 3.