Chemistry Lab Report

PEER EVALUATION FORM

for MEASUREMENTS AND INSTRUMENTS LAB

Use an **ORANGE** colored pencil for each step.

1. Write your name on the left-hand page in the top margin.
2. Write the score for each section (see table below) next to the heading for each section
    - a.Example: +3 next to “Purpose” to show student score.
3. Offer feedback or assistance by writing comments on the left-hand page. Draw an arrow to the right-hand page to show where the comment pertains.

0 = Absent 3 = Partially Complete 5 = Complete

Section	Evaluation	Points Earned
Title	Title of lab is present and labeled	
Purpose	Purpose of lab is labeled and clearly written in a complete sentence	
Background / Safety Concerns	No background was required for this lab. Be sure all safety concerns are listed.	
Pre-Lab Questions	All questions are numbered and answered completely, including work for calculations and complete sentences where needed.	
Procedure	For each station: Procedure is clearly summarized. It is evident that the student read all parts of the procedure.	
Data and Observations	For each station: Data is appropriately displayed in charts, graphs, and/or tables. Calculations are provided where needed.	
Post-Lab Questions	All questions are numbered and answered completely, including work for calculations and complete sentences where needed. ****See below for more instructions for the Post-Lab Questions****	
Conclusion	Purpose of lab is restated	
	Findings are verified with 3 or more results including important numerical values and their significance	
	Counterclaim is provided to address specific experimental error and provide possible experimental improvements	
	Specific real-world applications are given to provide importance of the experimental process	
	TOTAL POINTS **Write the total points directly below their Conclusion**	See instructions to the left.

MEASUREMENTS AND INSTRUMENTS Post Lab Questions Grading

Follow the instructions in red for each question to ensure you are letting them know if they have an incorrect answer. If a question is incorrect (or you think it may be incorrect) make a note next to each question stating what/why it is wrong.

1. Convert 100 deg F to deg C. (Show your work. No work, no credit!) Do your own conversion and check their answer. Did they show their work?
2. Convert 100 deg C to deg F. (Show your work. No work, no credit!) Do your own conversion and check their answer. Did they show their work?
3. Convert 100 deg C to K. (Show your work. No work, no credit!) Do your own conversion and check their answer. Did they show their work?
4. What did you calculate for the density of the metal at Station 2? Be sure they have an answer
5. The chart below shows the known densities of several metals. Using the chart below, determine the metal at station 2:

Metal	Lead	Iron	Aluminum	Nickel	Tin
Density	11.3 g/cm3	8 g/cm3	2.7 g/cm3	8.9 g/cm3	7.6 g/cm3

6. The unknown metal at Station 2 is Aluminum. Reflect on any possible experimental error outlining why you may not have gotten exactly 2.7 g/cm^3. Make sure they have done some critical thinking in their answer.
7. If you fill a small cube that is 1 cm on each side (1 cm^3 or 1 cubic centimeter or 1 cc) the cube will hold exactly 1 ml of water! Which means that you can easily convert between cubic centimeters and ml. Convert 10.0 g/cm^3 to g/ml. Exactly 10.0 g/ml
8. Water has a density of 1.0 g/ml. Determine the percent error from your measurements at Station 3. Show your work. Do your own calculation from their measurements and check their answer. Did they show their work?
9. Why did you not get exactly 1.0 g/ml for the density of water (critical thinking question – most groups will not get exactly 1.0 g/ml, explain why this might be)? Make sure they have done some critical thinking in their answer.
10. At station 4 you calculated the density of a golf ball. The actual density should be very close to 1.26 g/ml. Determine the percent error from your measurements. Show your work. Do your own calculation from their measurements and check their answer. Did they show their work?
11. Was your answer correct (or very close) for the density of the golf ball? **Yes / No** If not, explain any possible experimental errors. Be sure they have an answer
12. At station 4 you calculated the density of a ping pong ball. The actual density should be very close to 0.0840 g/ml. Determine the percent error from your measurements. Show your work. Do your own calculation from their measurements and check their answer. Did they show their work?
13. Was your answer correct (or very close) for the density of the ping pong ball? **Yes / No** If not, explain any possible experimental errors. Be sure they have an answer
14. Did you know: water has a density of 1.0 g/ml. Anything with a density greater than 1.0 g/ml will sink and anything with a density less than 1.0 g/ml will float! Did your ping pong ball sink or float? Did the golf ball sink or float? Explain why they did what they did! Be sure they have an explanation
15. The hottest point in your flame for station 5 should have been right above the inner blue cone. Was your temperature at that location above 1050 deg C? **Yes / No** If not, make a note in your lab notebook that the temperature should be greater than or equal to 1050 deg C so you have the correct info for the final. Be sure they have an answer
16. All of the solutions labeled "A" were the same solution for each station (as were the solutions for B and C and...etc). Did you get the same pH for letters A – E at each station? Explain your results and give rationale for

why your answers for the pH may not have been the same at each station. Make sure they have done some critical thinking in their answer.

Don’t forget to ‘grade’ their conclusion once you’ve graded their post-lab questions (see rubric above)