

Acidity of Beverages Peer Grading Rubric

Whose lab report are you grading? _____

Grader's Name _____ Date _____ Period _____

***Take off at least one point for each box that is not checked in the table below.

<u>Requirements</u>	<u>Earned Points</u>	<u>Possible Points</u>	<u>Comments</u>
Heading <ul style="list-style-type: none"> <input type="checkbox"/> Date of experiment <input type="checkbox"/> Lab partner(s) <input type="checkbox"/> Experiment Title 		3	
Pre-Lab <ul style="list-style-type: none"> <input type="checkbox"/> Purpose Background Knowledge (6 pts) <ul style="list-style-type: none"> <input type="checkbox"/> 1. a. $C_6H_8O_7 + 3NaOH \rightarrow 3H_2O + Na_3C_6H_5O_7$ <li style="padding-left: 20px;">b. $H_3PO_4 + 3NaOH \rightarrow Na_3PO_4 + 3H_2O$ <li style="padding-left: 20px;">c. $H_2CO_3 + 2NaOH \rightarrow Na_2CO_3 + 2H_2O$ <input type="checkbox"/> 2. True concentration precisely known; 0.100 M NaOH. <input type="checkbox"/> 3. Labeled drawing of setup <input type="checkbox"/> 4. Avoid contaminating and/or diluting the standard solution <input type="checkbox"/> 5. 23.45 mL; burettes are read from the top down <input type="checkbox"/> 6. pH on the y-axis vs. volume of titrant (in mL) on the x axis Materials <ul style="list-style-type: none"> <input type="checkbox"/> Bulleted list <input type="checkbox"/> Accurate Safety <ul style="list-style-type: none"> <input type="checkbox"/> Comprehensive Protocol <ul style="list-style-type: none"> <input type="checkbox"/> Imperative <input type="checkbox"/> detailed enough to follow <input type="checkbox"/> numbered steps 		13	
Observations <ul style="list-style-type: none"> <input type="checkbox"/> 2-3 complete sentences explaining qualitative observations <input type="checkbox"/> Indicates what the student did to cause the observed result 		2	
Data <ul style="list-style-type: none"> <input type="checkbox"/> Data Table (-1/2 point if no title) <input type="checkbox"/> 0-40mL NaOH for each beverage <input type="checkbox"/> pH for each beverage 		3	
Data Processing <p>1. Titration Curves</p> <ul style="list-style-type: none"> <input type="checkbox"/> Created in a computer program (3 points) <input type="checkbox"/> Appropriate Titles - include beverage name and "titration curve" (computer generated) (3 points) 		23	

<ul style="list-style-type: none"> <input type="checkbox"/> Labeled axes with UNITS (computer generated) (3 points) <p>2. Molar Concentrations of citric acid in each beverage</p> <ul style="list-style-type: none"> <input type="checkbox"/> $X_A M_A V_A = X_B M_B V_B$ <input type="checkbox"/> Substitutions (3 points) <input type="checkbox"/> Boxed answer with M units (3 points) <p>3. Mass of Citric Acid in one serving</p> <ul style="list-style-type: none"> <input type="checkbox"/> Shows all work (3 points) <p>Reasonable Answers (may vary slightly) (-1/2 each if wrong sig figs or wrong units)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Orange Juice: 1.40 g <input type="checkbox"/> White Grape Juice: 0.301 g <input type="checkbox"/> Pineapple Juice: 1.13 g <input type="checkbox"/> All calculations are clearly labeled and easy to understand 			
<p>Conclusion and Evaluation</p> <ul style="list-style-type: none"> <input type="checkbox"/> Complete sentences <input type="checkbox"/> Correct spelling and grammar <p>Paragraph 1:</p> <ul style="list-style-type: none"> <input type="checkbox"/> What is the purpose? <input type="checkbox"/> Titration Curve explanation of pH vs. volume titrant (NaOH) <input type="checkbox"/> Indicates initial pH and equivalence point for each beverage (3 points) <input type="checkbox"/> Phenolphthalein range (8.2-10.0) lies close to equivalence pt <p>Paragraph 2</p> <ul style="list-style-type: none"> <input type="checkbox"/> Likely sources of error (specific) <input type="checkbox"/> How would errors affect results? <input type="checkbox"/> How could the results be improved? <input type="checkbox"/> What did the student learn? 		12	
<p>Presentation</p> <ul style="list-style-type: none"> <input type="checkbox"/> Well-organized, sections clearly labeled <input type="checkbox"/> Neat, legible writing <input type="checkbox"/> Table of contents includes information <input type="checkbox"/> Page numbers included <input type="checkbox"/> Lab is written in ink <input type="checkbox"/> Errors properly crossed out, no white out <input type="checkbox"/> Writes on one side of the page only 		4	

Total points earned: _____ / 60

Write two things the student did well in this lab report:

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Write two things that the student could do to improve the lab report:

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