

Molar Volume Pre-Lab Feedback Rubric

Category	General	Pts	Specific	Self-Assessment
Summary	Summary is brief, does not have any procedure, explains the experiment, goal of experiment, includes any/all reactions that are part of the experiment	2	NA – Points automatically given unless you wrote something that did not apply. There were not really any special "named techniques" or unique lab equipment. Normally we would be "weighing by difference" but we kind of skipped that aspect when turning it into a remote activity.	
Purpose	Relevant, thoughtful, Complete Sentences, taken from the lab sheet (if given). Clear, concise, to the point and direct. Not part of the objectives. Does not contain any objectives. Include any/all reactions that are part of the experiment. What are you trying to do in the experiment?	2	The purpose is to determine the volume of one mole of hydrogen gas at standard temperature and pressure (STP)	
Objectives	Not part of the procedure, does not contain or match the purpose in any way, taken from the lab sheet (if given), listed, not explained, align with lab techniques of the experiment. Should not contain any reactions. Reactions are not the objective. [Ex. For the Analysis of Ag Experiment, the objectives are: Redox, Gravimetric Analysis, and Precipitation – the 3 are to be listed, that's it, nothing more]	2	Avogadro's, Dalton's, Ideal gas Law, Molar Volume	
Background - Reactions	All pertinent reactions occurring in the experiment including: states, balanced, subscripts, superscripts. Should be complete reaction(s) unless specified otherwise	2	$\text{Mg(s)} + \text{HCl(aq)} \rightarrow \text{MgCl}_2\text{(aq)} + \text{H}_2\text{(g)}$	
Background – Essential Question	Essential question (in the form of a question) the experiment is trying to solve. Turn your purpose into a question. "HOW," "DOES," "CAN," questions not included. The question should not ask if the lab will prove the lab. The point of the experiment is not to see the experiment do its thing, we know it will, that is why we are doing the experiment.	2	Many possible questions based on the purpose	

<p>Background – Chemistry Topics</p>	<p>Chemistry topics: all chemistry topics that are part of the experiment, <u>underlined</u> and explained. Does not include vocabulary words, only topics. Did not put many terms down in the hopes to get them all. Objectives must be included here as they are not explained in the Objectives section.</p>	<p>4</p>	<p><u>*Each topic must be explained and underlined per directions</u> (no credit if not)</p> <ul style="list-style-type: none"> • Molar Volume • Dalton's Law • Ideal Gas • Stoichiometry • Combined Gas Law • STP • Avogadro's Law <p>If put many/other terms down that are not part of the experiment - 1pt deduction</p>	
<p>Procedure Flow Chart</p>	<p>A good mix of words and images, pics, steps rewritten in your own words, multiple steps are not combined into single steps, the flow chart is created so that anyone could use it to conduct the experiment. Completed on paper, image inserted, NAME in INK is included in the image. Image is clear and legible - check your image before you insert</p>	<p>3</p>	<ul style="list-style-type: none"> • Clear, concise, legible, good mix of words (rewritten in your own words) and images/drawings. Anyone can use the flow chart to carry out the experiment. • Must be a flow chart, not a list of steps • Must be handwritten as stated on doc • No name in INK on the image that is inserted (2 pt deduction) 	
<p>Reagents Table</p>	<p>All reactant chemicals are included with EACH having name (loss of 3 pts if missing chemicals), formula, molar mass, all physical properties (MP, BP, D), state of chemical used in experiment, DETAILED safety concerns. Intermediate Table has same parts as the Reagent table EXCEPT only products of reactions that BECOME reagents in later steps belong in this table. NO PRODUCTS EVER GO IN EITHER TABLE. Does not have extra chemicals included that are not part of the experiment.</p>	<p>10</p>	<ul style="list-style-type: none"> • All chemicals included: Magnesium, Hydrochloric Acid <ul style="list-style-type: none"> • Missing any chemicals - 3pt deduction, • Having chemicals not part of the reaction - 3pt deduction • All columns filled out completely • Safety has significant detail • Intermediate table blank or N/A 	
<p>Pre-Lab Questions</p>	<p>Completed on paper, image inserted, NAME in INK is included in the image. All work shown for any calculations, final numerical answers in a 2D box. Image is clear and legible - check your image before you insert</p>	<p>3</p>	<ul style="list-style-type: none"> • All pre-lab questions answered with thought, detail, with relevant information • Work shown (if applicable) • Units in numerical answer (if applicable) • Handwritten ONLY • No name on the image inserted in INK (2 pt deduction) 	