

Identifying Unknown Solutions Using Qualitative Analysis

	Beginning	Developing	Accomplished	Exemplary	
Overall	<i>Lab report does not reveal objectives, results, and/or has made no attempt at analysis.</i>	<i>Lab report reveals basic objectives and results. Analysis attempted, but does not reveal relevance.</i>	<i>Organized lab report with definite objectives, results, and relevance.</i>	<i>Organized and professional lab report with clear communication of creative, original thinking that demonstrates science as a process.</i>	
Presentation/Format	<ul style="list-style-type: none"> ○ Written in pencil or coloured pens ○ White out is used ○ Frequent, obvious grammatical and spelling errors that confuse the reader ○ Headings are missing ○ Sections are missing 	<ul style="list-style-type: none"> ○ Written in messy blue/black pen ○ No white out used, but mistakes are scribbled out ○ Some distracting grammar and spelling errors which do not create confusion ○ Title/headings are not underlined ○ All sections are included, but out of order 	<ul style="list-style-type: none"> ○ Written in blue/black pen ○ No white out used, mistakes struck with one pen line ○ Minimal Grammar and spelling errors ○ Title/headings are underlined ○ Standard lab report format is followed 	<ul style="list-style-type: none"> ○ Neatly written in blue/black pen ○ No white-out used, mistakes struck with one pen line using ruler ○ Grammar and spelling correct throughout ○ Title/headings are neatly underlined with ruler ○ Crisp, neat, organized and professional lab report format that pleases the eye 	
Pre-Lab	Course, Unit, Date, Name, Partner's Name, Block	<ul style="list-style-type: none"> ○ Missing Name and/or Partner's Name ○ Date does not coincide with date in the lab 	<ul style="list-style-type: none"> ○ Name, Partner's Name, and Proper Data included, but missing Course, Unit or Block 	<ul style="list-style-type: none"> ○ Course, Unit, Name, Partner's Name, proper Date, and Block all included but out of order 	<ul style="list-style-type: none"> ○ Course & Unit at top left header ○ Name, Partner's Name, proper Date, and Block at top right header
	Title	<ul style="list-style-type: none"> ○ There is no title 	<ul style="list-style-type: none"> ○ Used title given in lab handout 	<ul style="list-style-type: none"> ○ Title does not reveal purpose of lab or minimal change from given purpose 	<ul style="list-style-type: none"> ○ Title reveals purpose of lab; goes beyond given title
	Purpose	<ul style="list-style-type: none"> ○ Point form ○ Some objectives are missing 	<ul style="list-style-type: none"> ○ Poor sentence structure (fragments) ○ Not all objectives are clear to the reader ○ Re-wording of objectives given in lab handout 	<ul style="list-style-type: none"> ○ Full sentences ○ All objectives clear, but no predictions 	<ul style="list-style-type: none"> ○ Clear communication through structured sentences that connect one idea to the next ○ Clearly identifies objectives and hypotheses/predictions
	Materials	<ul style="list-style-type: none"> ○ Material list missing or incomplete ○ Hazardous chemicals are not highlighted 	<ul style="list-style-type: none"> ○ All materials are listed ○ Hazardous chemicals are not highlighted 	<ul style="list-style-type: none"> ○ All materials are listed ○ All hazardous chemicals are highlighted 	<ul style="list-style-type: none"> ○ All materials are listed ○ <u>All hazardous chemicals are described in detail with safety precautions</u>

	Procedure	<ul style="list-style-type: none"> Many steps are missing or unclear Disposal procedures not included 	<ul style="list-style-type: none"> Unorganized, difficult to follow Words, commands are unclear Some minor steps are missing or unclear Disposal incomplete or unclear 	<ul style="list-style-type: none"> Organized Clear word, commands, but not concise All steps included Complete disposal instructions 	<ul style="list-style-type: none"> Excellent organization, easy to follow. Clear, concise word commands All steps included Disposal instructions complete and clear 	
	Results	Prep	<ul style="list-style-type: none"> Tables are missing headings/units No ruler used for tables 	<ul style="list-style-type: none"> Tables not organized/neat All table headings include units Tables are not titled 	<ul style="list-style-type: none"> All tables are neatly prepared All table headings include proper units All tables are titled 	<ul style="list-style-type: none"> All tables are neatly prepared with ruler All table headings include proper units All tables are titled and labeled by number
	During Lab	Observations	<ul style="list-style-type: none"> No or limited qualitative description Personal opinions given ex) "I think it smells yucky" 	<ul style="list-style-type: none"> Some qualitative description 	<ul style="list-style-type: none"> Qualitative description given for all chemicals (reactants and products) Important events are noted 	<ul style="list-style-type: none"> Detailed qualitative description given for all chemicals (reactants and products) Detailed log of experiment progress
Post Lab	Discussion Questions	<ul style="list-style-type: none"> Point form Answers are incorrect or incomplete 	<ul style="list-style-type: none"> Poor sentence structure (fragments) All answers demonstrate a minimal understanding of concepts 	<ul style="list-style-type: none"> Full sentences All answers demonstrate an understanding of concepts with minimal errors 	<ul style="list-style-type: none"> Clear communication through structured sentences that connect one idea to the next All answers demonstrate a thorough, in depth understanding of concepts 	
	Conclusion & Sources of Error	<ul style="list-style-type: none"> Point form Purpose and/or results not referred to No sources of error Personal opinions are included such as "I like this lab," "This lab was FUN!" 	<ul style="list-style-type: none"> Poor sentence structure (fragments) Refers to purpose, summarizes results without insight Sources of error not relevant Does not discuss relevance 	<ul style="list-style-type: none"> Full sentences Answers purpose by summarizing results States 1-2 relevant sources of error Reveals relevance of results 	<ul style="list-style-type: none"> Clear communication through structured sentences that connect one idea to the next Answers purpose by comparing key results to predictions/hypothesis (supported/not supported/rejected) States 2 or more insightful sources of error and suggests improvement to this lab Connects to big picture (<u>relevance</u>) Asks new questions and suggests new experiments for the future 	