Grading Rubric B

Name _____ Score _____ /50 _____% Grade_____

I. Introduction

Application	#	weight (wgt)	Exemplary (10)	At Standard (8)	In Progress (7)	Still Emerging (6)	No Evaluation (0)
Defining Problems	1a	*	Makes insightful connections between ideas or events that might not be obvious; abstract thinking evident (4 of 4) ❑ **Background Information** includes important information about the suspects, including new information that may connect to the findings of the last study ❑ **Background Information** includes an explanation of what tests will be done in the chemical analysis tests ❑ **Background Information** includes an explanation of what each test in each part (I-IV) is going to hopefully prove as it relates to the case NOTE**only one background section is needed for this entire assessment ❑ Purpose is clearly stated and correct	Makes general, logical connections between ideas or events; mostly concrete in nature (3 of 4)	Makes superficial connections between ideas; thinking might be confused or incomplete (2 of 4)	Makes incorrect or no connections between ideas (1 of 4)	No work shown for this section

II. Data

Application	#	wgt	Exemplary (10)	At Standard (8)	In Progress (7)	Still Emerging (6)	No Evaluation (0)
Interpreting Models	1b	*	Interprets visuals or models at a complex level (5 of 5) ❑ Data from **Table 1** and **Table 2** is reconstructed to show which compounds from Table 2 match each of the 5 chemical percentages listed in Table 1 ❑ Data from **Table 1**, **Table 2**, and **Table 3** is reconstructed to show a connection between the chemicals found from the suspects to the chemicals found at the crime scene and the abandoned car ❑ Data **Table 4** is filled in to include the amount of moles NOTE**3 total data tables are needed for this entire assessment ❑ Completed data tables include a relevant **title** explaining the data sets and correct **labels/units** are used for all columns and rows in the data table where applicable	Interprets visuals or models at a general level (3 of 4)	Interpretation of visual or model contains errors that restrict understanding (2 of 4)	Shows fundamental errors in use and understanding of visual (1 of 4)	No work turned in for this section

III. Analysis-No Graph Needed

III. Analysis-Part I: Chemical Calculations

Application	#	wgt	Exemplary (10)	At Standard (8)	In Progress (7)	Still Emerging (6)	No Evaluation (0)
Problem Calculations	2a	½	All essential information is evident through well-organized work while justifying the solution (5 of 5) ❑ Calculations for **Chemical A** are complete, correct, and all work was shown including units for all numbers throughout calculation ❑ Calculations for **Chemical B** are complete, correct, and all work was shown including units for all numbers throughout calculation ❑ Calculations for **Chemical C** are complete, correct, and all work was shown including units for all numbers throughout calculation ❑ Calculations for **Chemical D** are complete, correct, and all work was shown including units for all numbers throughout calculation ❑ Calculations for **Chemical E** are complete, correct, and all work was shown including units for all numbers throughout calculation	Most essential information is evident through organized work while leading to the solution (4 of 5)	Minimum information is evident through work with a solution present (3 of 4)	Work is extremely unorganized with no solution present (1–2 of 4)	No work shown for this section

III. Analysis-Part II: Suspect Calculations

Application	#	wgt	Exemplary (10)	At Standard (8)	In Progress (7)	Still Emerging (6)	No Evaluation (0)
Problem Calculations	2a	½	All essential information is evident through well-organized work while justifying the solution (5 of 5) ❑ Calculations for **Victim** are complete, correct, and all work was shown including units for all numbers throughout calculation ❑ Calculations for **Suspect #1** are complete, correct, and all work was shown including units for all numbers throughout calculation ❑ Calculations for **Suspect #2** are complete, correct, and all work was shown including units for all numbers throughout calculation ❑ Calculations for **Suspect #3** are complete, correct, and all work was shown including units for all numbers throughout calculation ❑ Calculations for **Suspect #4** are complete, correct, and all work was shown including units for all numbers throughout calculation	Most essential information is evident through organized work while leading to the solution (4of 5)	Minimum information is evident through work with a solution present (3 of 4)	Work is extremely unorganized with no solution present (1–2 of 4)	No work shown for this section

III. Analysis-Part III: Mole Calculations

Application	#	wgt	Exemplary (10)	At Standard (8)	In Progress (7)	Still Emerging (6)	No Evaluation (0)
Problem Calculations	2a	½	All essential information is evident through well-organized work while justifying the solution (5 of 5) ❑ Calculations for **Sunken Delivery Truck (A)** and **Crime Scene (B-E)** are complete, correct, and all work was shown using dimensional analysis including units for all numbers throughout calculation (4 total calculations) ❑ Calculations for **Suspect #1** are complete, correct, and all work was	Most essential information is evident through organized work while leading to the solution (4 of 5)	Minimum information is evident through work with a solution present (3 of 4)	Work is extremely unorganized with no solution present (2 or less of 4)	No work shown for this section

			shown using dimensional analysis including units for all numbers throughout calculation (1 total calculation) ❑ Calculations for **Suspect #2** are complete, correct, and all work was shown using dimensional analysis including units for all numbers throughout calculation (2 total calculations) ❑ Calculations for **Suspect #3** are complete, correct, and all work was shown using dimensional analysis including units for all numbers throughout calculation (2 total calculations) ❑ Calculations for **Suspect #4** are complete, correct, and all work was shown using dimensional analysis including units for all numbers throughout calculation (2 total calculations)				

III. Analysis-Part IV: Suspect #3 Special Calculations

Application	#	wgt	Exemplary (10)	At Standard (8)	In Progress (7)	Still Emerging (6)	No Evaluation (0)
Problem Calculations	2a	½	All essential information is evident through well-organized work while justifying the solution (5 of 5) ❑ The chemical reaction for the synthesis of vanillin is balanced correctly and correctly written ❑ Calculations for the **Limiting Reactant** are complete, correct, and all work was shown including units for all numbers throughout calculation and set up using dimensional analysis ❑ Calculations for the **Theoretical Yield of Vanillin** are complete, correct, and all work was shown including units for all numbers throughout calculation and set up using dimensional analysis ❑ Calculations for **% Yield** are complete, correct, and all work was shown including units for all numbers throughout calculation ❑ **% Composition** for the Excess reagent in the vanillin reaction is shown to determine if any matches to the unknown can be made	Most essential information is evident through organized work while leading to the solution (4 of 5)	Minimum information is evident through work with a solution present (3 of 5)	Work is extremely unorganized with no solution present (1–2 of 5)	No work shown for this section

IV. Conclusions

Application	#	wgt	Exemplary (10)	At Standard (8)	In Progress (7)	Still Emerging (6)	No Evaluation (0)
Connecting Ideas	1d	*	Makes insightful connections between ideas or events that might not be obvious-abstract thinking evident (4 of 4) ❑ **Part I conclusion:** All of the 5 chemical are listed and have realistic reasons for why they were at the crime scene ❑ **Part II conclusion:** A connection between the chemicals found on the suspects in Part II is related back to the information from the chemical analysis of the crime scene in Part I ❑ **Part III conclusion:** The amounts that were not able to be calculated are correct and are discussed while relating to what having an unknown means for the investigation ❑ **Part IV conclusion:** Connections between the unknowns and the crime scene are discussed and a general conclusion can be made about which of the suspects is the lead suspect at this point in the investigation and why	Makes general, logical connections between ideas or events; mostly concrete in nature (3 of 4)	Makes superficial connections between ideas; thinking might be confused or incomplete (2 of 4)	Makes incorrect or no connections between ideas (1 of 4)	No work shown for this section

Overall Report Formatting (Extra Credit-5 points)

Application	#	Wgt	
Technology Applications	1c	*	Technology used is best available and appropriate for the required research, data representation, interpretation, and communication of results. ❑ Entire Lab Report is computer generated (5 points); including data tables and calculations typed using the computer