**Rubric for Inquiry Based Teacher Guided Science Inquiry Project**

Based on the Smarter Science Framework by Youth Science Canada

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| Criteria | Level 1 (Emerging) | Level 2 (Developing) | Level 3 (Proficient) | Level 4 (Exemplary) |
| Problem Identification | Problem statement is unclear or missing | Problem is identified but lacks clarity or focus | Problem is clearly stated but lacks some specificity | Problem is clearly and precisely stated with focus |
| **Hypothesis Formation** | Hypothesis is missing or not related to the problem | Hypothesis is stated but lacks relevance or clarity | Hypothesis is clear and somewhat relevant | Hypothesis is clear, relevant, and testable |
| Research and Background | Little to no background research is conducted | Some research is done, but lacks depth or relevance | Sufficient research is conducted, relevant to the problem | Thorough research is conducted, highly relevant and insightful |
| **Planning and Variables** | Experimental plan is incomplete or poorly organized | Plan is present but lacks details or consideration of variables | Plan is well-organized with detailed consideration of some variables | Plan is well-organized with detailed consideration of all variables |
| Materials and Procedure | Materials list is incomplete, and procedure is unclear | Some materials are listed, and procedure is somewhat clear | Most materials are listed, and procedure is clear | All materials are listed, and procedure is clear, logical, and replicable |
| Data Collection | Data collection methods are unclear or inconsistent | Data is collected but with some inconsistencies or gaps | Data is consistently collected with minor errors | Data is collected thoroughly and consistently |
| Data Analysis | Data is not analyzed or poorly analyzed | Basic analysis is done but lacks depth or accuracy | Data is analyzed with appropriate methods, with minor errors | Data is thoroughly analyzed using appropriate methods |
| **Conclusion and Reflection** | Conclusion is missing or unrelated to the hypothesis | Conclusion is stated but not fully supported by data | Conclusion is supported by data but lacks depth in reflection | Conclusion is well-supported by data with deep reflection and insight |
| Communication and Presentation | Presentation is unclear or disorganized | Presentation is somewhat clear but lacks coherence | Presentation is clear with minor issues in organization | Presentation is clear, well-organized, and engaging |
| **Application and Extension** | Application or extension of findings is minimal or unclear. | Shows some application or extension of findings, but lacks depth or relevance | Demonstrates a clear application and extension of findings to relevant contexts or future research. | Demonstrates insightful application and extension of findings to broader contexts or future research. |

**Scoring**

**40-36 points**: Exemplary - The experiment shows a high level of understanding and application of inquiry-based principles across all categories.

**35-28 points**: Proficient - The experiment demonstrates a good understanding and application of inquiry-based principles with minor areas for improvement.

**27-20 points**: Developing - The experiment shows a basic understanding and application of inquiry-based principles with several areas needing improvement.

**9-10 points**: Emerging - The experiment demonstrates limited understanding and application of inquiry-based principles, with major areas needing improvement.