



Scientific Inquiry Using Scientific Practices Questions

Team Collaboration

- Describe the plan your team used to complete your Mission Folder. Be sure to explain the role of each team member and how you shared and assigned responsibilities. Describe your team's process to ensure that assignments were completed on time and deadlines were met.

Use of Scientific Inquiry

- **Problem Statement**
 - What problem in your community did your team investigate? Why is this problem important to your community?
 - List at least 10 resources you used to complete your research (e.g., websites, professional journals, periodicals, subject matter experts). Use multiple types of resources and do not limit yourself to only websites.
 - Describe what you learned in your research.
- **Hypothesis**
 - State your hypothesis and describe how it could help solve your problem.
 - Identify the independent variables and dependent variables in your hypothesis.
 - When you developed your hypothesis how did you know it could be tested AND could be proven false by testing?
- **Experimental Design**
 - List the materials you used in your experiment. Include technologies you used (e.g., scientific equipment, internet resources, computer programs, multimedia, etc.).
 - Identify the control group and the constants in your experiments.
 - What was your experimental process? Include each of the steps in your experiment. Include all safety precautions used by your team as step one.
- **Data Collection and Analysis**
 - Present the data you collected and observed in your experiment. The use of data tables, charts, and/or graphs is encouraged.
 - Analyze the data you collected and observed in your experiment. Does your data support or refute your hypothesis? Do not answer with a "yes" or "no." Explain your answer using one of the following prompts: "Our data supports/refutes the hypothesis because . . ."
 - Explain any sources of error and how these could have affected your results.
- **Drawing Conclusions**
 - Interpret and evaluate your results and write a conclusion statement that includes the following: Describe what you would do if you wanted to retest or further test your hypothesis. Evaluate the usefulness of the data your team collected. What changes would you make to your hypothesis and/or experimental design in the future, if any?

Benefit to the Community

- How could your experiments and data help solve your problem and benefit your community?
- Describe next steps for further research/experimentation and how you have or how you could implement your solution in the future.