

Purpose

- Asking Questions and Defining Problems
- Make sense of problems and persevere in solving
- Why are you doing the experiment?
- What did you observe in the world that made you ask your question?
- What made you curious?

Question/Problem

- Asking Questions and Defining Problems
- Make sense of problems and persevere in solving
- Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation
- What are you trying to figure out?
- What problem are you trying to solve?

Hypothesis

- Develop and use models
- Construct explanations and design solutions
- Construct viable arguments and critique the reasoning of others
- Write arguments to support claims using valid reasoning
- What do you think a likely answer or solution to your question/problem could be? Why?

Research/Background

- Obtaining, evaluating, and communicating evidence
- Attend to precision
- Integrate and evaluate content presented in diverse media formats, including visual and quantitative, as well as in words
- Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism
- Draw evidence from informational text to support analysis, reflections, and research
- What have others have said about the topic of your inquiry?
- How does this research influence how you will approach your project?
- Have others done this experiment before?
- How will you project further the research and experimentation that has already been done?

Project Title

A good title attracts attention, but also gives information about the project.

Abstract

Provide a concise paragraph/summary of your project, including purpose, hypothesis, procedures used, data summary/analysis, and conclusions.

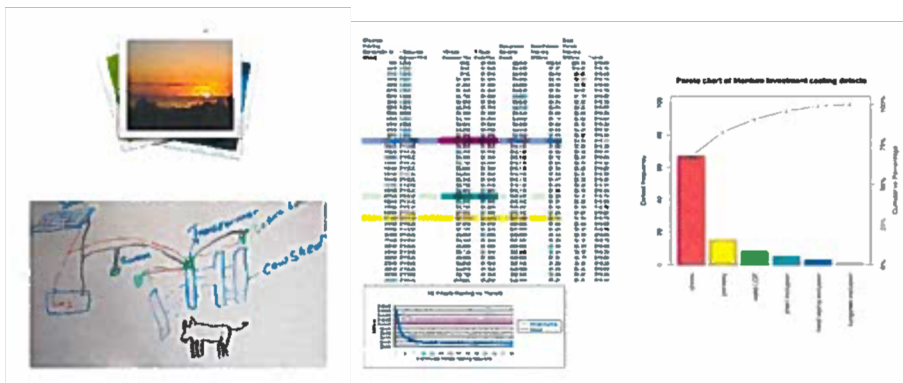
Materials & Methods

Record everything you use for your project. Record the steps you took during your experiment. Make sure others can follow them.

Data

Visually communicate your data in the format that matches the type of data you collected. You can show both raw and interpreted data. For example, spreadsheets, photos, diagrams, charts, maps, graphs, models, etc.

- Planning and carrying out investigations
- Developing and using models
- Using mathematics and computational thinking
- Make sense of problems and persevere in solving
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Integrate and evaluate content presented in diverse media formats, including visual and quantitative, as well as in words



Write down everything you do from start to finish. Do not include preparing the board. Journal should be handwritten and authentic. Be sure to have your journal on display with your board.



Results

- Analyzing and interpreting data
- Obtaining, evaluating, and communicating evidence
- Reason abstractly and quantitatively
- Attend to precision
- Look for and make use of structure
- Write informative/explanatory texts to examine and convey complex ideas and information, clearly and accurately, through effective analysis of content
- This is a summary of results from the experiment.
- Explain your data, photos, charts, graphs, and models in paragraph form.

Conclusion

- Engaging in argument from evidence
- Applying evidence to claims with reasoning
- Obtaining, evaluating, and communicating evidence
- Construct viable arguments and critique the reasoning of others
- Draw evidence from informational texts (including student data) to support analysis, reflection, and research
- Write arguments to support claims, using an analysis (of all components of process and research) using valid reasoning and sufficient evidence
- Restate question
- Describe your observations before, during, and after the experiment
- Summarize your research
- Explain and justify your conclusion with your data and observations

Next Steps

- Obtaining, evaluating, and communicating evidence
- Asking questions and defining problems
- Reason the validity of claims
- Make sense of problems and persevere in solving
- Conduct short, as well as more sustained, research projects based on focused questions, demonstrating understanding of the subject
- What new questions do you have as a result of your inquiry?