



2025-2026 STEAM Fairs Experiment Project Description & Rubrics 6th Grade – 12th Grade

Project Overview:

Scientists design experiments to answer questions about the world. They form testable questions, make predictions, plan procedures, and collect data to test their ideas. In this project, you will create and conduct an experiment or observation study to explore a cause-and-effect relationship.

Here is what you will do:

- Ask a testable question written clearly.
- Make a prediction supported by reasoning.
- Plan your procedure and describe the steps so someone else could repeat it.
- Collect data by running your experiment at least three times for reliable data.
- Identify your independent variable (what you change), dependent variable (what you measure), and constants (what stays the same).
- Show your data in clear ways (charts, graphs, drawings, photos, or labels).
- Write a conclusion and share your findings, challenges, and future questions.
- Present your project neatly on a tri-fold board or PowerPoint presentation. Be prepared to present for 3-5 minutes.
- Keep a logbook that shows your work from start to finish with a bibliography of all sources.

Tri-Fold Board Expectations:

Experiment Display Board		
Prediction	(Title) (Testable Question) Trials	Constant Conditions
Background		
Procedure	Data & Identification	Conclusion & Reflection

Logbook Expectations:

- Title and testable question
- Background research and sources
- Materials list and procedures
- Notes, data, charts, or drawings from each trial
- Reflections (what worked, what you would change, new questions you have)
- Bibliography

Digital Presentation Expectations:

Students can choose to create a digital presentation in place of a tri-fold board. The presentation must include the following:

1. **Title Slide** – Include the project title, your name, and your teacher's name.
2. **Prediction** – Your reasonable prediction.
3. **Procedure** – Describe the process for your experiment.
4. **Background** – Describe why this project was selected and the research.
5. **Trials** – Describe the 3 trials and show pictures.
6. **Data** – Show the data from the 3 trials.
7. **Constant Conditions** – Identify the independent variables, dependent variables, and constant conditions.
8. **Conclusion & Reflections** – Reflect on what you learned and how you could do this experiment differently.



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Student Names:					Grade:	
Teacher's Name				Project Title:		
Category	Exceeds Expectations	Meets Expectations	Approaching	Beginning		
Title & Testable Question (5)	5 Title creative; question is clear, specific, and shows cause & effect	4 Title clear; question testable and specific	2-3 Title present but not clear or not connected to experiment	0-1 Title missing or unclear; question not testable		
Prediction (5)	5 Thoughtful prediction with strong reasoning and connection to background research	4 Reasonable prediction connected to the question	2-3 Prediction vague or weakly supported	0-1 No prediction or unrelated		
Procedure (5)	5 Steps detailed, logical, replicable; includes materials list	4 Steps clear enough to follow; mostly replicable	2-3 Some steps unclear or incomplete	0-1 Steps missing or disorganized		
Background (5)	5 Strong explanation of why the project was chosen; integrates relevant research	4 Clear explanation with some supporting research	2-3 Some explanation; minimal research	0-1 No explanation or research		
Trials/Samples (10)	10 At least three trials/observations with consistent, reliable results	8-9 Three trials/observations completed with mostly consistent data	5-7 Fewer than three trials or data inconsistent	0-4 No trials or observations		
Constant Conditions (10)	10 Independent, dependent, and constants identified and clearly explained	8-9 Independent, dependent, and constants identified	5-7 One or two variables identified	0-4 Variables not identified		
Data & Identification (10)	10 Data is accurate, detailed, and well-organized; visuals labeled and demonstrate use of math/statistics	8-9 Data shown in charts/graphs; mostly neat and labeled	5-7 Limited data or poorly labeled visuals	0-4 No data or evidence shown		
Conclusion & Reflection (10)	10 Clear reflection explains results, significance, surprises, and improvements	8-9 Reflection explains what was learned	5-7 Reflection basic or unclear	0-4 No conclusion or reflection		
Presentation (Trifold or PowerPoint) (10)	10 Presentation is polished, organized, engaging; student demonstrates strong understanding	8-9 Presentation is complete and clear	5-7 Presentation is missing parts or unclear	0-4 Presentation incomplete		
Logbook: Data Entries (20)	20 Complete with detailed notes, sketches, charts, data, and reflections; shows accuracy and depth	15-19 Includes clear notes, data, and observations	10-14 Some notes/data included; incomplete	0-9 Missing or mostly empty		
Bibliography (10)	10 More than 3 credible sources; formatted correctly	8-9 At least 3 sources listed in correct format	5-7 Fewer than 3 sources; inconsistent format	0-4 No sources listed		

****Students/Teachers are to complete the top portion of this form and make sure it is attached to the STEAM Fair project for judges to reference, all scores are entered through the shared digital scoring form.****