2026-2027 STEAM Fairs
Experiment Project Description & Rubrics
6th Grade – 12th Grade

Project Overview:

Scientists ask questions, make predictions, collect evidence, and use their results to learn about the world around them. For this project, design an experiment or observation study to answer a testable question. Record your research, procedures, data, and reflections in a logbook.

Project Steps:

Keep track of each step in your logbook.

1. Ask: Choose a Testable Question
Choose a question you can answer through an experiment or careful observations. Your question should have a clear purpose and, when appropriate, show a cause-and-effect relationship.

2. Research: Learn About Your Topic
Research your topic before beginning the experiment. Record important information and sources in your logbook.

3. Predict: Make a Prediction
Explain what you think will happen and why. Use what you learned from your research to support your prediction.

4. Plan: Design Your Investigation
List your materials and write clear steps so someone else could repeat your experiment or observation. Identify:

- The independent variable: what you change
- The dependent variable: what you measure or observe
- The constants: what you keep the same

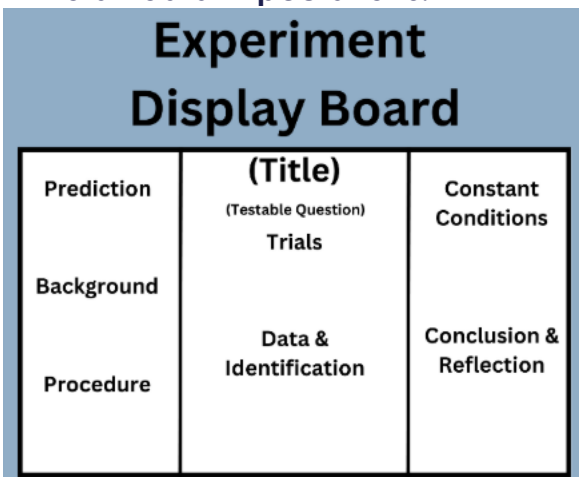
5. Test: Complete Your Trials or Observations
Follow your procedure and complete at least three trials or observations. Keep the conditions as consistent as possible.

6. Record & Organize Your Data
Record what happens during each trial or observation. Use tables, charts, graphs, drawings, photographs, labels, or other appropriate ways to clearly show your data.

7. Conclude & Reflect
Use your results to answer your original question. Explain what you learned, whether your prediction was supported, any surprises or challenges, and what you might change or investigate next.

8. Prepare & Practice Your Presentation
Organize your tri-fold board or digital presentation so others can easily understand your question, investigation, results, and conclusion. Be prepared to explain your project and answer questions about your work.

Tri-Fold Board Expectations:



Display boards may be a maximum of 36 inches high by 48 inches wide, must be a tri-fold board, and must stand on their own

Logbook Expectations:

The logbook should show the project work from beginning to end and include:

- Title and testable question
- Prediction
- Background research and sources
- Materials list and procedure
- Variables and constants
- Notes, data, charts, drawings, or photographs from each trial or observation
- Conclusion and reflections
- Bibliography

Students may create a digital presentation instead of a tri-fold board. The presentation should clearly show the same project information required on the tri-fold board, including the question, research, prediction, procedure, variables, trials or observations, data, conclusion, and bibliography, along with charts, graphs, photographs, drawings, or other visuals when appropriate to help communicate the investigation and results.

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Student Names:		Grade:		Sequence #:	
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.****