



Project Overview:

Identify a problem and design an invention to help solve it. Build a prototype to show your idea, test it, and make improvements. Use an engineering notebook to record your ideas and project work.

Project Steps:

Keep track of each step of your project in your *Engineering Notebook*. Preschool notebooks may include student drawings, student writing, adult writing, and words dictated by the student.

1. Ask: Identify the Problem

- Think about a problem you would like to solve. Be ready to explain the problem, who experiences the problem, and how could solving the problem help someone.

2. Imagine: Think of Ideas

Brainstorm different ways you might solve the problem. Use drawings, words, teacher-recorded ideas, or conversations to show your thinking.

3. Plan: Choose an Idea

- Choose the idea you would like to build. Draw and label your plan. Decide what materials you will need and how the invention should work.

4. Create: Build Your Prototype

- Build a prototype that shows your invention idea. Add labels and use colors, shapes, textures, or other artistic details to help communicate your design.

5. Test: Try Your Prototype

Test your prototype to see how well it solve the problem. Think about what worked, what did not work, and what was learned.

6. Improve: Make a Change

Use what you learned from testing to improve your prototype or explain what you would change next time.

7. Create Your Display Board

Use pictures, drawings, labels, and short explanations to show the story of your project.

8. Practice Sharing Your Invention

Be ready to tell the judges about the problem you wanted to solved, who the invention helped, how you planned, built, and tested the invention, what worked, and improvements you would make.

Tri-Fold Board Expectations:

Display boards can be a maximum 36" x 48" tri-fold board and must stand on its own

Maker Division - Engineering/Invention

Preschool Display Board

What is the Problem?	(Title) (Description)	Test
Ideas & Planning	My Prototype (Show pictures, drawings, and the final prototype with labels)	What worked? What could we change?

Engineering Notebook Expectations:

- Define the problem
- Sketches from planning
- Material lists
- Procedures for building
- Notes and Data from testing
- Reflection

Preschool Engineering Notebook should be a combination of adult and student writing and drawing.



2026-2027 STEAM Fairs

Maker Division – Engineering/Invention Project Description & Rubric

Preschool

Student Names:		Grade:		Sequence #:	
Teacher's Name		Project Title:			
Category	Exceeds Expectations	Meets Expectations	Approaching	Beginning	
Title & Description (10)	10 Has a creative title and clear description of the invention	8-9 Has a clear title and short description	5-7 Has a title but description is hard to understand	0-4 No title or description	
Define the Problem (10)	10 Clearly explains the problem and who it helps	8-9 Explains the problem with some details	5-7 Mentions a problem but with little detail	0-4 No problem explained	
Ideas & Planning (10)	10 Shows many ideas through drawings or teacher notes	8-9 Shows some ideas before building	5-7 Shows only one idea with little detail	0-4 No ideas or planning shown	
Engineering Notebook (15)	15 Notebook has clear drawings/notes showing ideas and changes	11-14 Notebook has some drawings or notes	7-10 Notebook has very few drawings/notes	0-6 Notebook missing or mostly empty	
Create & Build (20)	20 Prototype is neat, complete, labeled; shows effort and care	15-19 Prototype is mostly neat and complete	10-14 Prototype is incomplete or messy	0-9 Prototype not built	
Art & Creativity (15)	15 Uses art (colors, shapes, textures) in a very creative way; invention looks expressive	11-14 Uses some colors, shapes, or textures	7-10 Shows a little artistic effort	0-6 Shows no artistic effort	
Test & Improve (10)	10 Prototype tested; explains what worked and what could change	8-9 Prototype tested; explains what was learned	5-7 Prototype tested but reflection is unclear	0-4 Prototype not tested	
Sharing About My Invention (10)	10 Explains the invention clearly with details; uses drawings, words, or labels	8-9 Explains the invention with some details	5-7 Explains a little about the invention	0-4 Cannot explain the invention	

****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.****