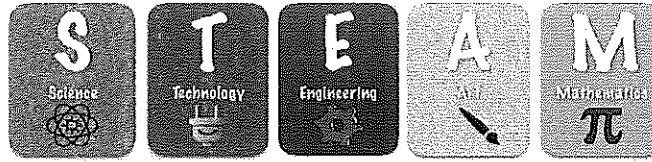


# TUSD Elementary School STEAM Fair



## 4<sup>th</sup>/5<sup>th</sup> Grade - Problem Solving/Experimental Design

(Focus: Science, Technology, Engineering, Art, Math)

### Project Specifications

**Wonderings:** What have I always wondered about? What experiment can I create to learn more?

#### Requirements:

##### Scientific Thinking/Model Design

Why did you create your experiment?

- Identify a purposeful question or problem which could be investigated. Be sure to base the experiment on personal interest with support
- Form a claim, clearly outline the procedures, and identify what stayed the same and what changed in each trial. Repeat the experiment at least 5 or more times (trials)

##### Research Plan (Scientific Process)

What is the procedure for creating your experiment?

- Be sure to complete all written parts and research the topic using 3 or more sources
- Create an abstract (summary) of the project.

##### Scientist's Data and Results

What evidence did you have to support your claim and reasoning?

- Includes daily, detailed notes about your observations and experiment problems
- Measure and display your evidence and list materials used
- Indicate the redesign of the experiment and provide detailed reasoning.

##### Visual/Digital Display

How will you share your project?

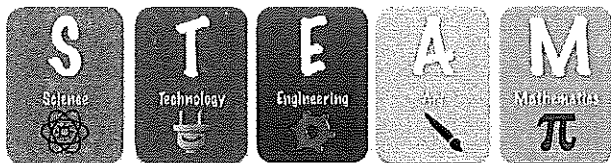
- The experimental design may only occupy a space the size of a student's desktop (24" long and 15" deep). Anything larger must be approved by the teacher.
- The experimental design may be mounted on a display board, cardboard/tagboard, or any reasonable manner that fulfills the size display requirements.
- Students must produce their own display that is organized and clearly communicates findings.

##### Oral Presentation

How will you verbally explain your project?

- Must be 1-2 minutes and explain the purpose of the project and what was discovered.
- Presentations can be via video, but the student has to be the one explaining the experiment in the video, and student must be prepared to answer questions during the presentation.

\*Please see scoring rubric on the back for even more details.



Score \_\_\_\_\_/15

Room \_\_\_\_\_

Teacher \_\_\_\_\_

Name \_\_\_\_\_ Grade \_\_\_\_\_ Project Title \_\_\_\_\_

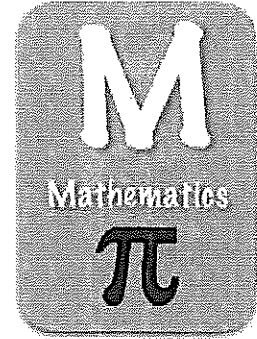
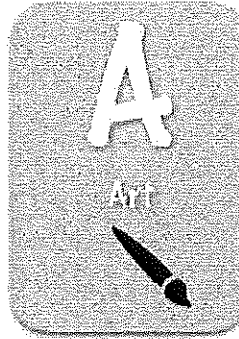
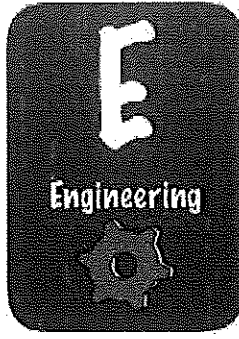
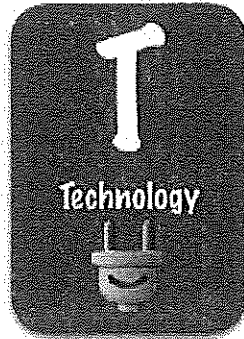
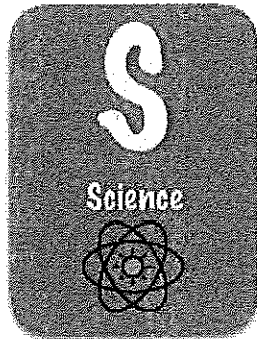
## STEAM Fair - 4th & 5th Grade Scoring Rubric

	<b>3 Master Scientist</b>	<b>2 Super Scientist</b>	<b>1 Scientist in Training</b>	<b>0 Not Evident</b>
<b>Scientific Thinking / Experimental Design</b> Why did you create your experiment?	Student identified a purposeful question or problem which could be investigated: -experiment is based on a clear personal interest - formed a claim - clearly outlined procedures -clearly identified what stayed the same in each trial -clearly identified change - completed experiment at least 5 or more times -Clearly evident redesign of the experiment	Student attempted to follow all of the steps of the scientific process, but a few parts may need more detail or explanation. -experiment lacks personal interest -formed a claim -outlined procedure -completed experiment 3-4 times -no redesign	Several parts of the scientific process are lacking, such as: -no personal interest in experiment provided -the claim or problem was not testable had no personal -procedure was unclear -completed experiment 1-2 times	Student did not complete a project using the steps of the scientific process
<b>Research Plan (Scientific Process)</b> What is the procedure for creating your experiment?	All written parts are complete, including: -procedure is clear -researched the topic using 3 or more sources, -an abstract (summary);	All parts of the research plan are complete, but could use greater detail: -procedure is incomplete -researched topic using 2 sources	Some parts of the research plan may be incomplete or missing: - missing procedure -researched the topic using one source	Research plan not completed
<b>Scientist's Log</b> What evidence did you have to support your claim and reasoning?	Includes daily, detailed notes including: -observations -identified experiment problems -correctly measured and displayed evidence -listed materials -redesign -detailed reasoning	Includes several days worth of notes including: -observations -identified experiment problems -correctly measured and displayed evidence -listed materials -redesign -reasoning	Notes are minimal: -limited observations -lacks identification of experiment problems -little or no evidence was collected -materials list was incomplete -did not include a redesign -lacked a clear reasoning	Notes about the process are missing or severely incomplete
<b>Visual / Digital Display</b> How will you share your findings?	Visual/digitally produced display is; -neat, informative and strongly supports the research plan - includes 3 or more photos, graphs or diagrams -conforms to specified size -writing is neat, detailed and free of errors -highest quality work evident	Visual/digitally produced display is - neat - informative - includes at least 2 photos, graphs or diagrams -work is neat but may have some errors	Visual/digitally produced display is: -show minimal quality - frequent errors in writing - illegible writing	No visual/digitally produced display was submitted
<b>Oral Presentation</b> How will you verbally explain the project? (approx. 2-3 minutes)	Presentation is coherent and well organized; - provides clear explanation of problem/question -includes a detailed description of claim, procedure results and what was learned	Presentation is organized: -provides an explanation of problem/question -includes a description of claim, procedure, results and what was learned; but -may need some teacher prompting	Student has difficulty explaining the parts of his/her project and what he/she learned even with teacher prompting; presentation is not prepared.	Student is unable to explain his/her project or what he/she learned; or student did not share his/her project.

<p><b>Scientific Thinking</b></p>	<p><b>Title of Collection</b></p>	<p><b>Results</b></p>
<p><b>Research Plan</b></p>	<p><b>Name, Grade, Teacher</b></p>	
	<p><b>Data</b></p>	



# Torrance Unified School District



## STEAM Fair Proposal and Approval Form - DUE 3/15/19

Student Name (as it should appear on the certificate)

\_\_\_\_\_ Grade \_\_\_\_\_

Title of Project (as it appears on the backboard) \_\_\_\_\_

Type of Project: (circle one)

Counting Collections

Inventions

Experiment

Summary (abstract):

Write a paragraph that explains the wondering you will investigate and describes in detail the method or procedures you will use in your investigation.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Materials Needed:

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What kind of evidence will be collected: (pictures, numerical data, observations, trials)

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How the project will be displayed (may check more than one option):

- Poster/Plaque/Display Board
- Pictures
- Video
- Live Demonstration
- Model/Invention
- Use of Chromebook/iPad/Other device
- Other (Please Specify: \_\_\_\_\_)

**Student Approval:** I will follow the guidelines as described in the STEAM Fair Rules and Regulations for my STEAM Fair Project.

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Student Signature

Date

**Parent/Guardian Approval:** I have read and understand the guidelines described in the STEAM Fair Rules and Regulations and will monitor my child's project. I consent to my child participating in this research and completing a STEAM Fair project.

---

Parent/Guardian Signature

Date

**Teacher Approval:** I have read and approved this student's Summary (Abstract) and agree that it meets the guidelines as described in the STEAM Fair Rules and Regulations.

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Teacher Signature

Date