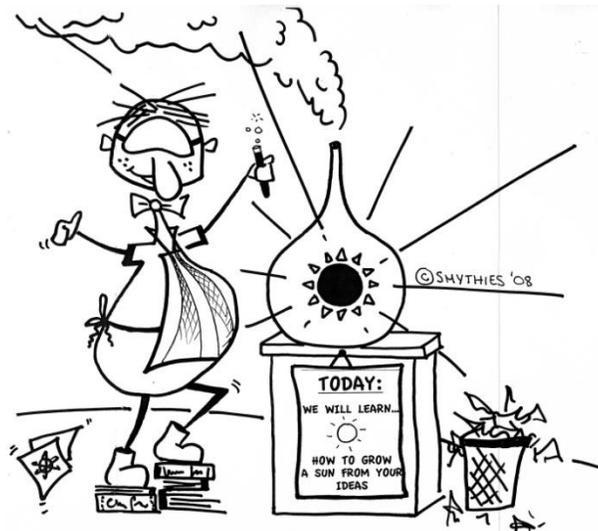


# Medina STEM Week

## Science Project Guide



LEARN. EXPLORE. CREATE.

MEDINA ELEMENTARY SCHOOL

# Introduction

Are you ready to get messy and have lots of fun learning science? Come join other scientists as you investigate anything that interests you and display your results at the Medina STEM Night. Here's a chance to see what your classmates have learned and to show what you've learned to your friends, family, and teachers!

## Basic Information

**Medina STEM Night is April 25<sup>th</sup> from 5:30-7:30pm.**

- 1) Projects will be optional and done at home.
- 2) The project tri-fold will be due at school on Monday, April 23<sup>rd</sup>.
- 3) Students must have a 2-3-minute presentation regarding the project practiced and ready.
- 4) Project boards will be displayed @STEM Night
- 5) There will be a popular vote for favorite projects of each grade and the winners will be announced at 7pm @STEM Night

## Guidelines for your Science Fair Project

- 1) Absolutely no explosives or toxic chemicals are allowed.
- 2) You can partner with another student in your school to work on a project.
- 3) You are responsible for anything fragile or valuable. As a result, think carefully about including fragile or valuable items in or on your display.
- 4) You will need a free-standing, three-sided display board for your project. (Don't use a poster board since it will not stand up).

# Scientific Process

## Where do we start?

The scientific process can help! Here is a brief summary of the process:

- ② **Step 1: Select a topic and ask a question about it.**
  - For example, if you like football, your questions might be: “Do players with thicker necks suffer fewer injuries?” “Does artificial turf hurt or help a team’s performance?”
  - Narrow down your questions and pick something that you really want to know the answer to.
  - Your project should involve an experiment and answer a question. It should not be just a description or a model.
- ② **Step 2: Form a hypothesis.**
  - Make an educated guess about the outcome of your question. For instance, your hypothesis to one of the questions above might be: “Artificial turf helps a team’s performance.”
  - Remember that it is ok if your hypothesis turns out to be wrong.
  - If you don’t have any ideas, research the topic to get a better idea of what might happen.
- ② **Step 3: Plan and carry out the experiment.**
  - You should have multiple trials.
  - You should have 1 variable that you measure. For instance, back to the artificial turf question, you could measure the number of points earned during each game.
  - List out the step by step directions to complete the investigation.
- ② **Step 4: Gather data and record the results.**
  - In addition to making observations, measure your results.
  - Instead of saying “a plant looks bigger,” you could use a ruler to measure the exact height. Use numbers to support your observation if possible.
- ② **Step 5: Explain the data.**
  - Did the data support your hypothesis? Was your hypothesis right?
  - Explain why the data happened the way it did.
- ② **Step 6: Create your display.**
  - Type/write up your experiment and results for the display.
  - Organize your display to show this information. Refer to the display example below.

# Science Display

Below is an example of what your display can look like:



## Helpful Internet Sites

Science Buddies: <http://www.sciencebuddies.org/>

Education.com: <http://www.education.com/science-fair/>

Bill Nye the Science Guy: <http://www.billnye.com>

Exploratorium Science Projects: [http://www.exploratorium.edu/science\\_explorer/](http://www.exploratorium.edu/science_explorer/)

Discovery for Kids Science Fair Central:

<http://school.discoveryeducation.com/sciencefaircentral/>

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## SCIENCE PROJECT

**Name:** \_\_\_\_\_

**Grade:** \_\_\_\_\_

**Topic:** \_\_\_\_\_

**Teacher:** \_\_\_\_\_

**Room #** \_\_\_\_\_

**Turn this slip into the office by 4/18 to reserve your spot!**