

# STEM FAIR



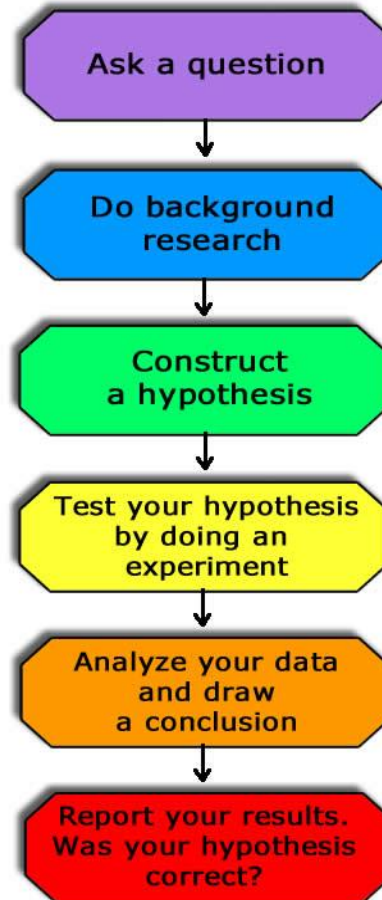
# What STEM?

- STEM stands for science, technology, engineering, and mathematics.
- STEM is important because it is in every part of our lives.
- It is everywhere around us!

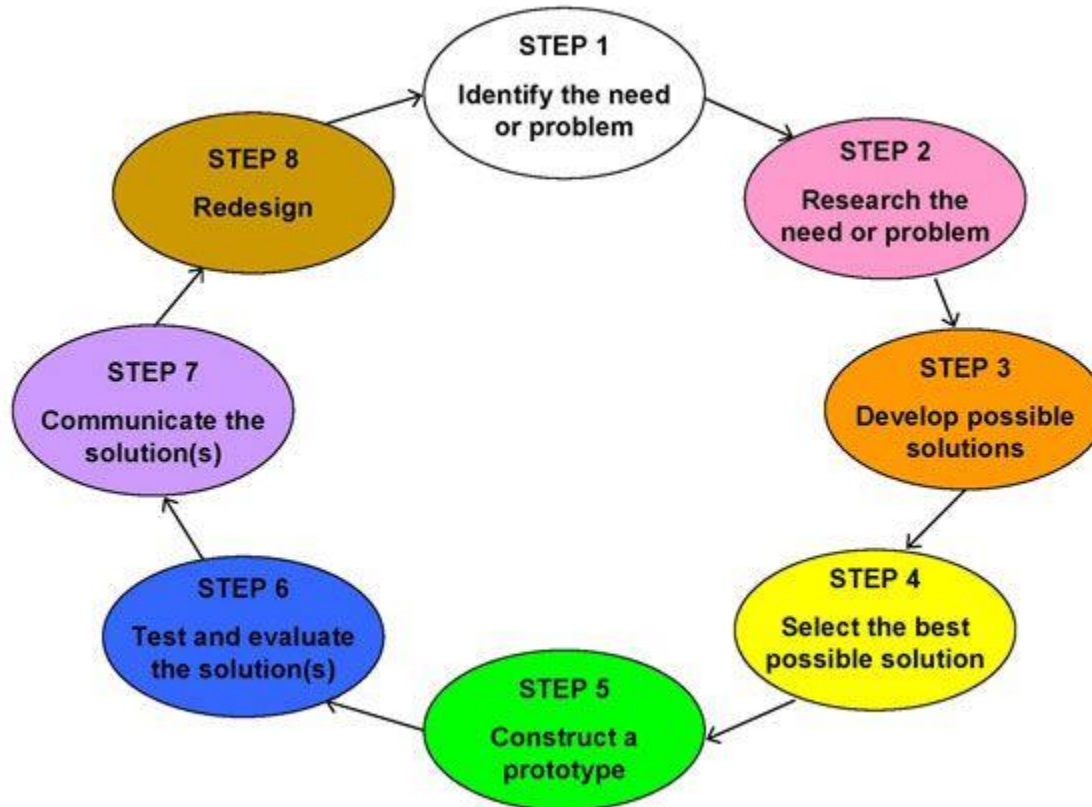
# What Kind of Project Can You Do?

- Projects can fall under any of areas of science, technology, engineering and mathematics.
- You can do a science experiment, create a piece of technology, build an engineering project, or do a probability and statistics mathematical project.
- THE PROJECT MUST FOLLOW THE SCIENTIFIC METHOD OR ENGINEERING PROCESS.

## The Scientific Method



# Engineering Process



# Project Ideas:

STEM	Information	Example Topics
<b>S</b>  Science	-Investigate topics related to any field of science using the Scientific Method	-How does the length of a jump rope change your frequency of jumps?  -How much water do beans absorb?  -How many numbers can one remember?
<b>T</b>  Technology	-Use Scientific Method or Engineering Design Process to investigate topics related to technology	-Robots  -Coding  -How do distractions affect a video game scores?

# Project Ideas:

<p><b>E</b></p> <p><b>Engineering</b></p>	<p>-Use the Engineering Design Process to investigate topics related to engineering</p>	<p>-Does the color of your house affect your energy costs?</p> <p>-What bridge works best?</p> <p>-Which glue is the strongest?</p>
<p><b>M</b></p> <p><b>Mathematics</b></p>	<p>-Use the Scientific Method or Engineering Design Process to investigate topics related to mathematics</p>	<p>-What colors are found most frequently in a bag of M&amp;Ms? Skittles? Or any candy?</p> <p>-What is the surface area of containers that hold the same volume?</p> <p>-What number occurs most frequently when you roll two dice? Three dice?</p>

# What Does Your Project Have To Include?

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**Included on the board if following the scientific method:**

**Question**  
**Background Research**  
**Hypothesis**  
**Procedure (including defining variables)**  
**Data**  
**Conclusion**

**Included on the board if following the engineering process:**

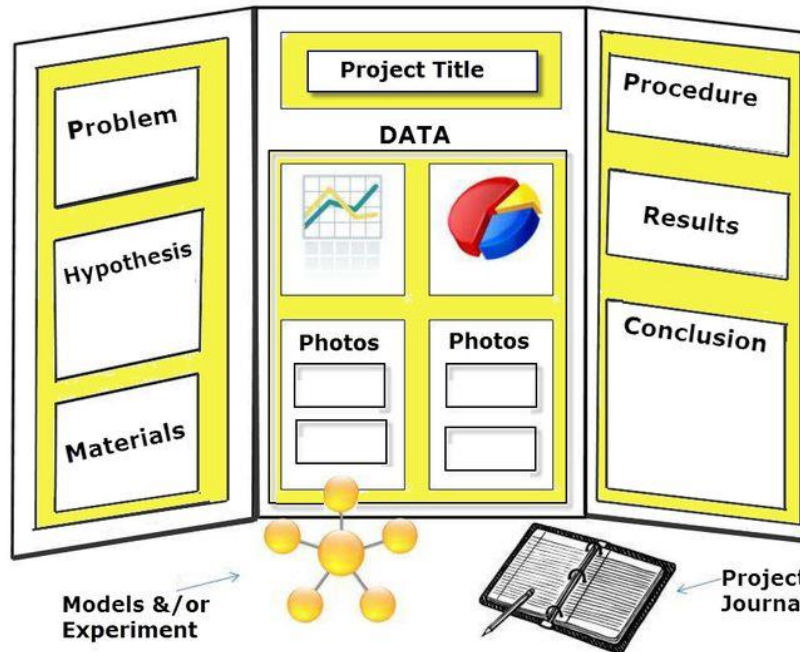
**Problem**  
**Background Research**  
**Possible Solutions**  
**Solution to Problem**  
**Design and Development of Prototype**  
**Process to Test Prototype**  
**Conclusion**

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# What does a STEM Project Look Like?

Science Fair Display Model



# What does a STEM Project Look Like?

## Engineering Projects

MATERIALS	TITLE		RESULTS & INTERPRETATION
	PROBLEM	PROPOSED SOLUTION	
	PICTURES		
PICTURES	PICTURES		GRAPHS
DATA/LOG BOOK	BACKGROUND RESEARCH	DESIGN	CONCLUSION

# Display Rules:

- no food items, no containers filled with water, no sharp items, no animals, no plant materials, no chemicals, no flames, fire or highly flammable materials, no batteries
- no photos of people, names of people who completed surveys should not be included , photos from the internet must have a credit line of the original source
- projects with moving parts that have unprotected belts and pulleys especially if they can be triggered

## Presentation & Awards:

- The day of the STEM Fair, the student will present his/her board to the judges.
- The student should be able to answer questions about his/her project.
- Students should dress professionally.
- First, second and third place finishes will be awarded in grade divisions; Grades K & 1, 2 & 3, and 4 & 5.

## Frequently Asked Questions:

- Can I do a project with a partner?  
YES! You can work with one or two other people.
- Where can I get ideas for projects?  
Go to: [www.sciencebuddies.org](http://www.sciencebuddies.org)
- How will the project be judged?  
Go to the school website to see rubric.

When is the fair?

January 30<sup>th</sup>

Get started! Be creative!