

# Student Planning Packet

Please refer to the [LAEF4Kids.org/STEAM](http://LAEF4Kids.org/STEAM) website for additional information and details.

## Scientific Method



1. **Ask** a Question

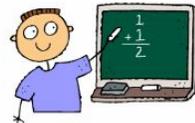


2. **ReSearch** your Topic



3. **State** your Hypothesis

4. **Test** your Hypothesis



5. **Analyze** your Data

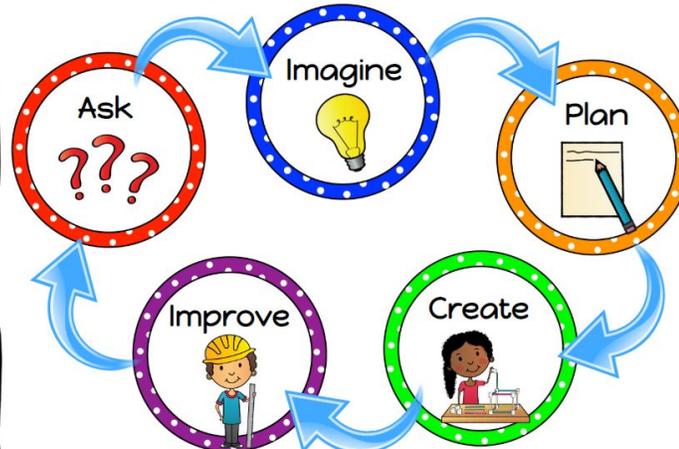


6. **Report** your Results

[www.TheCraftyClassroom.com](http://www.TheCraftyClassroom.com)

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## The Engineering Design Process



# Steps for Completing a Scientific Investigation Project

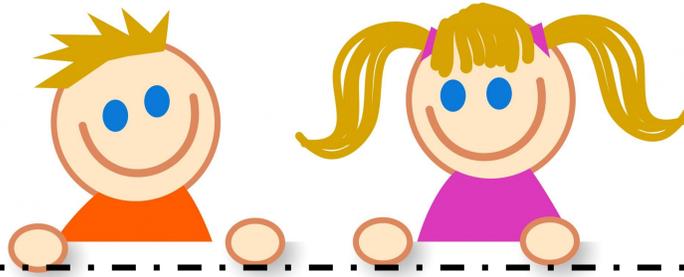
- ❑ Ask a question.
- ❑ Conduct background research. What do you need to know about your topic?
- ❑ Make a hypothesis. What do you think will happen?
- ❑ Make a plan. List the steps you will take to complete your experiment. List the materials you will need.
- ❑ Test your hypothesis, collect data, and record your results in a graph or chart. Take pictures and/or video!
- ❑ Analyze your data. What did you discover? Was your hypothesis correct? Why or why not?
- ❑ Reflect. Do you have any new questions you want to explore as a result of doing this experiment?
- ❑ Prepare a Google Slide presentation (see tips page).
- ❑ Submit your project by clicking the link to the Google Form on the [LAEF4Kids.org/STEAM](https://www.laef4kids.org/STEAM) website. You will be asked to provide a link to your Slide presentation. Make sure the share settings are set to viewable by anyone with the link.



# Steps for Completing an Engineering Project

- ❑ What is the problem or challenge you want to solve?
- ❑ Conduct background research. What do you need to know about your topic? What have others done in the past to solve this problem?
- ❑ Brainstorm possible solutions. Pick one and draw a sketch. Make a plan and a materials list.
- ❑ Build, test, evaluate, and make improvements. Take notes and pictures and/or video!
- ❑ Evaluate your results. Did your final design work? Why or why not?
- ❑ Reflect. What did you learn from this challenge? Do you have any new ideas to improve your design, new questions, or next steps?
- ❑ Prepare a Google Slide presentation (see tips page).
- ❑ Submit your project by clicking the link to the Google Form on the [LAEF4Kids.org/STEAM](https://www.laef4kids.org/STEAM) website. You will be asked to provide a link to your Slide presentation. Make sure the share settings are set to viewable by anyone with the link.





## STEAM Fair Google Slide Tips Engineering Design Process

All students should prepare a Google Slide presentation to submit to LAEF.

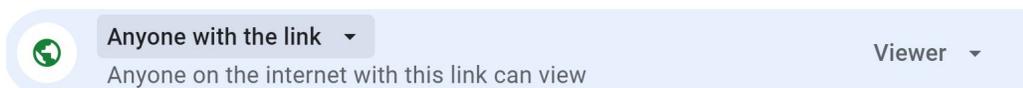
**Include the following topics in your presentation (each topic can be more than one slide):**

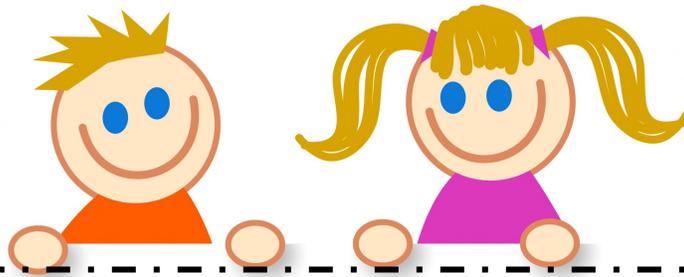
1. **Project title** - What is the problem you are trying to solve? Include your name and grade level.
2. **Background research** - What did you learn about your topic?
3. **Plan** - Include planning sketches and/or list the steps you took to complete your project.
4. **Create** - Include pictures, sketches, and/or video to show your build process. Include the materials you used.
5. **Test & Improve** - Describe in detail any adjustments and improvements you made to your model. Include pictures and/or video to show how the final product works.
6. **Conclusion and Reflection** - Share what you learned. Did your final design work? Why or why not? Do you have any new ideas to improve your design further or new questions to explore as a result of doing this project?

**Tips for making your slides AWESOME!**

- ❖ Organize each slide with section headings.
- ❖ Include captions for pictures.
- ❖ Make fonts big and easy to read.
- ❖ Use talking bullets instead of paragraphs.
- ❖ Use solid color backgrounds (or just stick with white).
- ❖ Embed videos or provide a link.

**Google Slide Share Settings :**





## STEAM Fair Google Slide Tips Scientific Investigation

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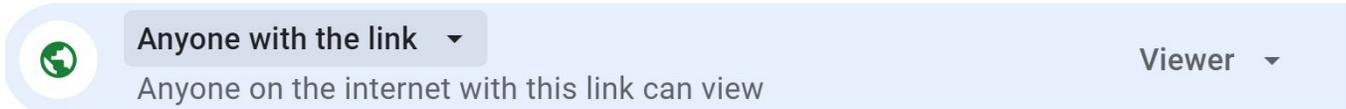
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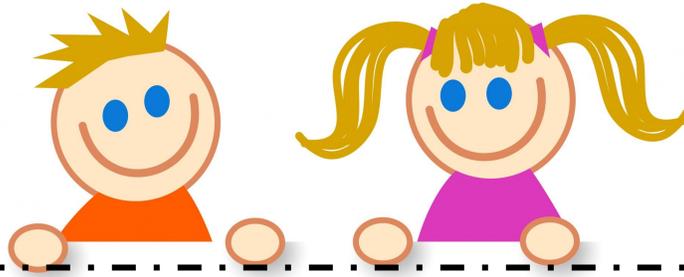
1. **Project title** - What is your testable question? Include your name and grade level.
2. **Background research** - What did you learn about your topic?
3. **Hypothesis** - What was your prediction?
4. **Procedure** - List the steps you took to complete your experiment.
5. **Data** - Include pictures, sketches, and/or video to show the data you collected from your experiment.
6. **Conclusion and Reflection** - Share your results. What did you discover? Was your hypothesis correct? Why or why not? Do you have any new questions or experiments you want to explore as a result of doing this experiment?

**Tips for making your slides AWESOME!**

- ❖ Organize each slide with section headings.
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**If your project is one of the 5 selected to present on May 24th, be prepared to share and celebrate your project!**

**Tips for Presenting:**

- ❖ Be prepared to present your slides.
- ❖ Demonstrate a strong understanding of your project.
- ❖ Be prepared to answer questions about your project.
- ❖ Act Scholarly:
  - Stand up straight
  - Speak clearly
  - Look people in the eye when you are talking



# My STEAM Connections!

**S**

Science

**T**

Technology

**E**

Engineering

**A**

Art

**M**

Math