

# HHIE's Science and Engineering Fair



**January 24-28,**

**How do I follow the engineering fair process?**

## You Are Invited...

All students are invited to prepare a project for HHIE's Science and Engineering Fair. This is the time for lovers of science, math and engineering to share their knowledge. All science fair projects must follow the Scientific Method (using variables). All engineering projects should follow the engineering project planning process included in this letter. Optional student guidebooks may be accessed here: [Resources for Science and Engineering Fair](#)

**\*\*Please note: 4<sup>th</sup> Grade students are required to complete a science fair project. Projects will be completed in class. \*\***

## Safety Guidelines

- No glass or sharp objects
- No heat or fire
- No harsh chemicals
- No breakable items at school
- No valuables at school

## How Do I Follow The Scientific Method?

A scientist follows certain steps in an experiment. This is referred to as the **Scientific Method**.

The steps we will use are the following:

- Question
- Hypothesis
- Materials
- Procedure
- Data/Graphics
- Results
- Conclusion
- Variables

Some good websites to explain this process and get ideas:

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

[www.sciencebuddies.org](http://www.sciencebuddies.org)

Students who choose to do an engineering project will use the following steps:

**Ask:** What is a problem that I want to solve?

Decide on criteria for success and resources

**Imagine:** Brainstorm at least two ideas for solving the problem.

**Research:** What have others done to solve the problem.

**Plan:** Combine the best parts of your ideas and make a plan. Draw or list steps for exactly how this will be created.

**Create:** Record what you created using pictures, sketches, etc.

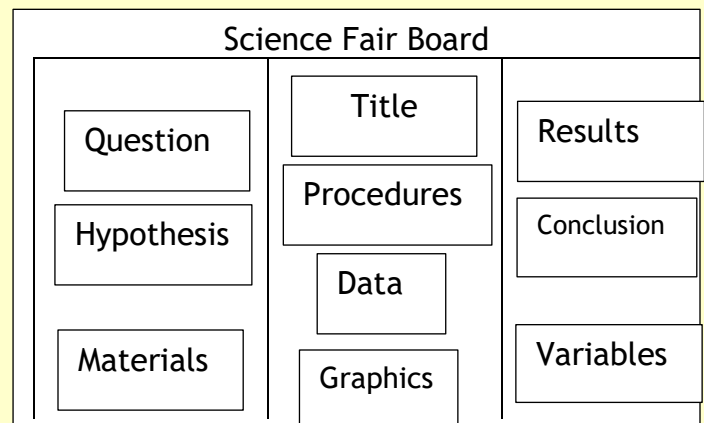
**Test:** How will you measure the success of your solution? (Examples include how far it traveled, how much water was collected, etc.) You should perform at least 3 trials and record results on a chart.

**Improve:** Reflect on the first trials went and choose one variable to change. See how this impacted your results.

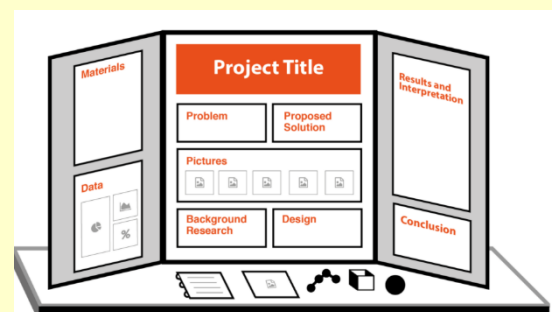
Website with ideas for the Engineering Fair:

<https://sciencefaircentral.com/students/engineering-projects>

## What Could My Scientific Method Board Look Like?



## What Could My Engineering Project Board Look Like?





## Information

- Partner projects are allowed. Partnerships are limited to 2 people. Partners should be from the same grade level.
- Backboards are not needed. If you want to make a backboard, you may create one and bring it to your classroom on January 24<sup>th</sup>.
- HHIE has purchased backboards for students. Backboards may be picked up in the red or yellow office. If you need supplies for your project, please reach out to your child's teacher or a science fair representative.
- You may also put all information on Google Slides, PowerPoint, Word, or use paper and pencil. Discovery Education has a science fair board builder you might choose to use.
- Students will have an opportunity to meet with judges to answer questions and discuss projects. Look for more information about this closer to the Fair.
- Science and Engineering Fair participants will be celebrated, and individual students recognized the week of January 24<sup>th</sup>.

## Parent Support

Everyone needs and appreciates parent help. We thank parents for the following:

- Cheerleading and giving guidance and support.
- Helping to finance any supplies that might be needed for the project.
- Monitoring safety.
- Making sure their students are following a timeline and that their student's project is ready by either slide presentations or science boards by the due date.
- Supporting student agency by allowing your child to make decisions throughout the process.

### Need Some Help?

The Science and Engineering Fair Committee is available for help. You may contact any Science Fair Committee member by email:

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## Timeline to Prepare for a Project

### Tuning In

Think about a question that you want to investigate. Gather information about projects. The websites mentioned on the first page have some ideas. You could also expand on an investigation completed in the STEM lab.

### Finding Out

Once you decide on a project idea follow the guidelines for a science fair project or an engineering fair project. The format you follow is determined by your choice of project.

### Sorting Out

Write your results, conclusion, and recommendations. Talk about your variables.

### Going Further

Create your display. Your display, whether it is a slide presentation, or a backboard, must be submitted by January 24, 2022.

### Making Conclusions

Students will meet with judges to share projects. Students should be prepared to explain their thinking and perhaps what they might do differently if they did this project again.

### Taking Action and Celebrations

Several projects will be highlighted on HHIE's Facebook page and school webpage. Science and Engineering Fair Projects with backboards will be displayed in the school.

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