



JOIN US FOR



Friday, May 11, 2018
6:30pm - 8:00pm
Wellington Elementary

Come to this free, family-friendly event to see student projects and participate in hands-on activities and demonstrations!

Everyone is Encouraged to Do a Project!

The 2018 Wellington STEAM Night is open to all STEAM enthusiasts - grades Kindergarten through 5th.

To register your student's project (mandatory and free) please visit the PTA web site at WellingtonPTA.org. Make sure to register by April 27th to ensure space for your student's project. The **first 50** registrants receive a **free** project board from your Wellington PTA.

Sometimes Picking A Project Is The Hardest Part!

Use this Wellington STEAM Night Detailed Information Packet for project tips, ideas and web resources.

This event is fully funded by your Wellington PTA.
If you have questions, email us at: Contact@WellingtonPTA.org.



Wellington STEAM Night

General Guidelines

- ❑ Projects may be individual, group, or classroom projects.
- ❑ Students can enter projects on any subject relating to science, technology, engineering, art, math, or any combination of the five areas. Some examples of project categories include:

Biological Sciences

Environmental and Earth Sciences

Computer Sciences

Physical Sciences

Chemistry

Math

Engineering

Performance Art

- ❑ Performance Art
 - ❑ Please video recorded your performance art piece.
 - ❑ Performance art includes such things as singing, dancing, playing a musical instrument, performing a monologue or short skit, sharing poetry of your own or from your favorite poet, etc.
 - ❑ Video must not exceed 5 minutes in length and 1GB (one gigabyte) in file size.
 - ❑ Cite any authors, poets or background music (if any) on the student entry form.
 - ❑ Accepted video file formats include: AVI, MOV, MP4, WMV, and FLV.
 - ❑ Save as a FILE and NOT a movie.
 - ❑ Label video file and DVD/USB Drive with your student name, title of artwork, grade and teacher name.
- ❑ STEM Projects
 - ❑ May be focused on discovery ("how something works" or "why something happens") or an investigation to solve a scientific question.
 - ❑ Students may enter "works in progress". *Don't worry if your experiment isn't totally complete - tell us what you have learned so far!*
 - ❑ It is not necessary to spend a lot of money to have a successful project. You can use common, inexpensive household materials for great projects!
 - ❑ Clearly communicate what you observed or tested by having a neat and easy to follow display. *(Please see **Constructing Your Project Display.**)*
 - ❑ Have fun! Remember: learning something new is important!
 - ❑ **Live animals, dangerous chemicals, explosives, drugs, hypodermic syringes or needles, or open flames may not be included in any exhibit.**



Preparing a STEM Project

1. **Select a Topic**

A STEM project is an experiment you perform or observations you make to find an answer to a question - "how something works" or "why something happens". Choose a topic that you are interested in.

2. **Gather Background Information/Research Your Topic**

You can get information about the subject of your STEM Fair project from books, magazines, the Internet, people, libraries and companies. Keep notes about what you've learned and where you've gotten the information and use them in your presentation.

3. **Use the Scientific Method, if possible.**

Use the scientific method to answer a question about your topic, that is:

- State the **question** you are answering. What are you trying to find out?
- State your **claim/hypothesis**—your guess about what the answer will be.
- Decide on your **variable** (something you will change or vary) or observations that will help you find your answer.
- Describe your **procedure** (what you did)
- Decide on how you will measure or describe your results. Try to use measurements to describe your **evidence/observations**- for example, report that the plants grew "1 cm", rather than that they were "bigger".

4. **Record the Results of Your Tests, Measurements, and Observations.**

Do your test, observations, or experiment as described (see above). *Remember to include your results, observations, or measurements on your presentation board!*

5. **Interpret Your Results (Summarize and Make Conclusions)**

Describe what happened in your experiment. You can use tables, graphs, or charts to summarize the results of your measurements or observations. Do your results support or disprove your hypothesis? It is alright if your results disprove your claim/hypothesis - this happens all the time in science. *Make sure you state your conclusions on your display!*

6. **Construct an Exhibit or Display**

Your display or exhibit should be neat and easy to see (does NOT have to be typed). Describe your project—show what you did, how you did it, and what your results were. Be sure people can understand what you did. Make it fun!

7. **Come to the STEAM Night, share your project and have FUN!**



Ideas for STEM Fair Projects

1. Use Your Experiences

Remember a time you noticed something and thought, "I wonder how that works?" Or, "I wonder what would happen if..." then turn that into a project.

2. Check the Science Section of the Library

Go to the library. They have lots of books on potential STEM Fair projects.

3. Surf the Internet

Use a computer with a web browser and search for "Science/STEM Fair Projects" on a topic that interest you. For example: aviation, marine biology, electricity, pollution, electric cars, composting, or hydroponics.

Here are some great resources for Science Fair project ideas:

school.discoveryeducation.com/sciencefaircentral

sciencebuddies.org

sciencefairadventure.com

4. Think About Current Events

Look at the newspaper. Current events may give you ideas for projects. For instance, people are hungry throughout the world because of droughts. This might lead you to a project on growing plants without much rain—which plants grow okay with little water?

5. More Ideas

What material are the best insulators and conductors?

Are dogs colorblind?

Do soap bubbles last longer on warm days or cold days?

What is the best method, other than heat, to melt ice?

How do plants react to different kinds light, colors and neighbor plants?

How does sound travel?

How does color influence heat absorption from sunlight?

6. Try Putting Different Words In These Blanks

What is the effect of _____ on _____?

humidity

germination of seeds

temperature

the volume of air



How or to what extent does the _____ affect _____?
 humidity growth of fungi
 color of a material its heat absorption

Which or what _____ (verb) _____?
 detergent makes the most bubbles



What Makes a Good Project?

1. You are interested in the topic!!

2. You can do an experiment or make observations to find an answer to a question.

While K-2 grades will focus more on discovery and observation, a good STEM project for grades 3-5 is an experiment—that means it's a test to find an answer to a question you have.

For example, if you are interested in bugs and you saw some ants moving real slowly once on a cold day, you might test to see what effect temperature has on the rate at which bugs move. You'd get some bugs, find a way to make their container a little colder than normal and somehow measure how fast they move. Then you'd make their container a little warmer than normal and measure how fast they move then.

3. You can do it with only a little help from adults.

Once you decide "what" and "how" you will do your project, having too much adult help takes away some of your fun and you won't learn as much. Your project doesn't have to be perfect! Discuss with your parents and teachers where you really need their help.

4. It doesn't hurt or scare people or animals, including you.

It's not only a bad idea; it is also against the rules of our STEAM Night and of the school district. You also may not use dangerous materials in your project experiment. You should ask a teacher or parent if you are not sure.

5. It's a GREAT project if...

Your test results or observations make you wonder about other things. Doing the project, or reading or seeing what happened makes you think of other questions you are curious about.



Constructing Your STEM Project Display

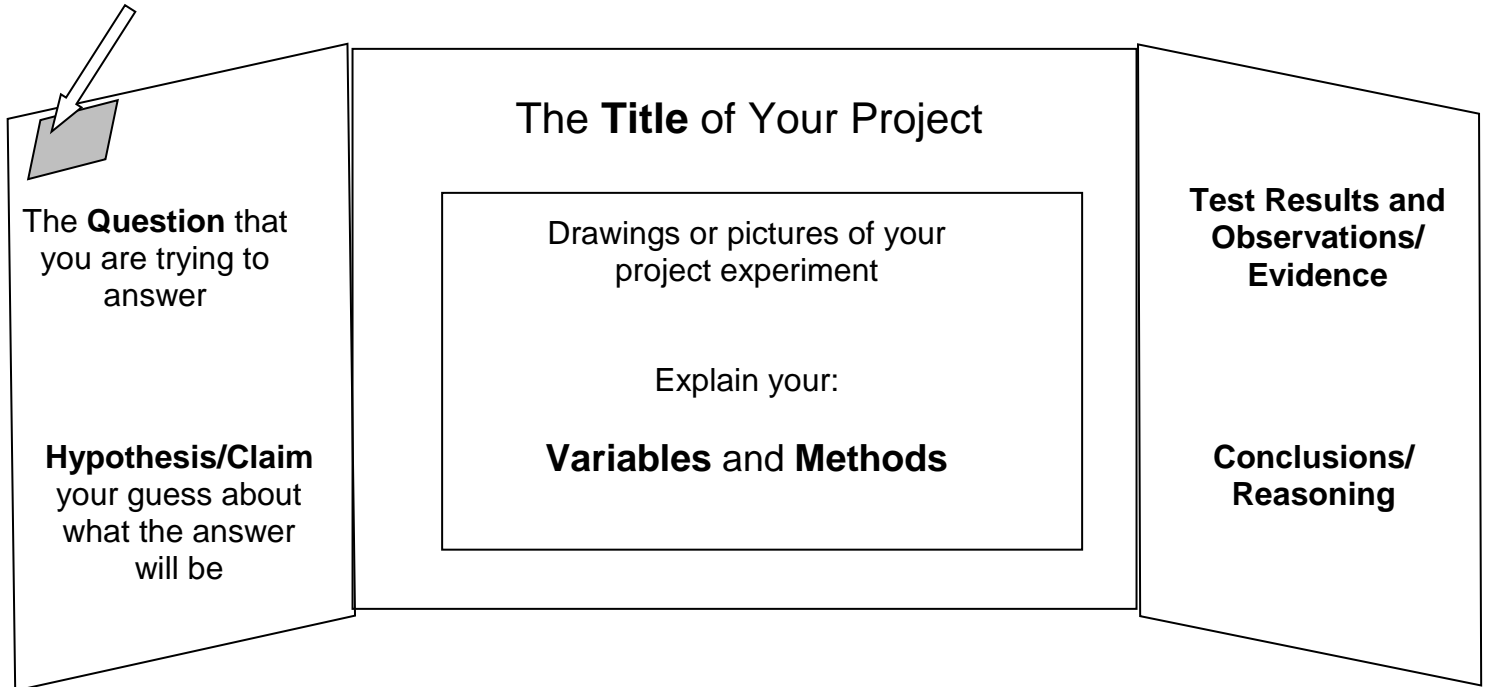
Your project display is a chance to get creative! Think of interesting ways to explain your project or show your results. Make it fun!

- ❑ Your display or exhibit should be neat and easy to see (it does NOT have to be typed).
- ❑ Your display should describe your project—show what you did, how you did it, and what your results were. Be sure people can understand what you did.
- ❑ Pictures showing you performing your experiment or making observations are really helpful! They can show both what you did and how you did it. Drawings and illustrations are also really helpful.
- ❑ Models, collections, or other “stuff” can be part of your display if it helps to show what you did or your results.
- ❑ Try to do as much of the display as you can by yourself. Only ask a parent or other adult for help when you really need it!
- ❑ Projects must not exceed 30 in (wide) X 18 in (deep) x 48 in (high). The project must stand by itself. *“Presentation boards” will be provided by the PTA after signing up online. If you sign up and do not receive a board, please contact us at YourWellingtonPTA@gmail.com.*
- ❑ Contact us at jane@WellingtonPTA.org if your project requires electricity. Students must provide an extension cord for exhibit requiring electricity. All projects using 110V AC or greater must have a main disconnect switch.
- ❑ **Live animals, dangerous chemicals, explosives, drugs, hypodermic syringes or needles, or open flames may not be included in any exhibit.**
- ❑ **All projects are entered at the student's own risk. The Northshore School District, Wellington Elementary and Wellington PTA are NOT responsible for loss or damage to projects or materials.**



Example STEM Project Display

Project Label
(next page)





Please cut this label out and attach it to your project in the upper left hand corner



Names: _____
Project Title: _____ _____
Cite authors, poets or musicians (performance art): _____
Grade: _____ Teacher: _____

Please write what you would like to say about your project to parents and practice speaking it out loud at home:

Project Explanation: _____ _____ _____ _____ _____ _____ _____ _____

Equipment and your research materials can be placed on the table.