



ENATAI ELEMENTARY SCIENCE FAIR

2020 **Virtual Science Fair** **May 15**

What is a Virtual Enatai Science Fair?

It is an online school-wide event that allows students to better understand the scientific process by researching a scientific question. All Enatai students are welcome to participate! Instead of bringing the final projects to an event at school, we'll post photos of the display boards and PDF posters on our [science fair web page](#).

What is a display board and PDF poster?

This year's final deliverable can be a photo of a tri-fold display board or single panel poster, or a PDF poster that the student designs using PPT, Word, or any design tool of choice. All photos, PDFs, and completed **Scientific Method Sheets** need to be emailed to sciencefair@enataiptsa.org by **May 15th**.

**This is a participatory showcase and will not be judged or evaluated.
Remember - keep your experiment simple.**

Science Fair is also an optional component of the **Academic Adventure**. Email any questions to academicadventure@enataiptsa.org

Science Fair Project Instructions:

Step One: **Select a TOPIC.**

1. Consider something that interests you.
2. Think about a question that can be tested.

You should be able to answer "yes" to the following questions when you select your topic:

- Is my topic realistic? Is it something I can do?
- Is my topic interesting to me?
- Can I investigate my topic by experimenting and collecting data?
- Can I afford what I will need to investigate my topic?
- Do I have enough time to investigate my topic?

Step Two: **Turn your TOPIC into a QUESTION** that you will answer with your scientific investigation or experiment. Write your QUESTION on the attached **Scientific Method Outline Sheet**.

Keep your question as simple as possible. A list of sample questions is available at the end of this document. Additional ideas science fair topics/questions can be found at www.sciencebuddies.org

Step Three: Create a HYPOTHESIS. Write your HYPOTHESIS on the attached **Scientific Method Outline Sheet**. A hypothesis is what you think the result will be from your experiment. It is a statement that answers your question. Remember, it's only a guess. You will find the real answer later.

Step Four: Create a list of the MATERIALS you will need. Think of the experiment you will do to help you answer your scientific question and record the materials you will need to gather to conduct your experiment. List all your MATERIALS on the attached **Scientific Method Outline Sheet**.

Step Five: Describe the PROCEDURE of your experiment. Write about how you will conduct the experiment using the materials that you have gathered. You may want to include diagrams (pictures) of your experiment to help explain it better. Write your PROCEDURE on the attached **Scientific Method Outline Sheet**.

STEP SIX: Record the RESULTS. This means that you need to write down things that you discovered while performing your experiment. Write your RESULTS on the attached **Scientific Method Outline Sheet**.

STEP SEVEN: State your CONCLUSION. Your conclusion is the answer to your hypothesis. What did you learn from this experiment? (For example: "My hypothesis was proven/not proven because...")

What should the Project Write-up/Presentation look like?

Your completed project can be displayed in a variety of ways. Students often like to use a freestanding, trifold display board, which can be purchased at several office/craft stores such as Office Depot or Michaels. **You can also make your own out of poster board or create a digital poster!**

<p>Include a title, text, charts and pictures that describe and illustrate the chosen project. It should answer the questions listed in the Scientific Method Outline.</p> <ol style="list-style-type: none"> 1. Question 2. Hypothesis 3. Materials list 4. Procedure 5. Results 6. Conclusion 7. Grade Level & Teacher 	<table border="1"> <tr> <td data-bbox="893 1228 1039 1312">Testable Question</td> <td data-bbox="1039 1228 1258 1312">TITLE</td> <td data-bbox="1258 1228 1396 1312">Data Analysis</td> </tr> <tr> <td data-bbox="893 1312 1039 1396">Hypothesis</td> <td data-bbox="1039 1312 1258 1638" rowspan="2"> Data/Results <ul style="list-style-type: none"> • Graphs • Data tables • Pictures </td> <td data-bbox="1258 1312 1396 1512"></td> </tr> <tr> <td data-bbox="893 1396 1039 1501">Materials Used</td> <td data-bbox="1258 1512 1396 1638">Conclusion</td> </tr> <tr> <td data-bbox="893 1501 1039 1638">Procedure</td> <td colspan="2"></td> </tr> </table>	Testable Question	TITLE	Data Analysis	Hypothesis	Data/Results <ul style="list-style-type: none"> • Graphs • Data tables • Pictures 		Materials Used	Conclusion	Procedure		
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Questions? Contact Susan Goeben via email at sciencefair@enataiptsa.org
Website: <http://enataiptsa.ourschoolpages.com/Page/Activities/ScienceFair>

Additional Science Fair Resources:
<http://faculty.washington.edu/chudler/fair.html>
<http://www.sciencebuddies.org/>



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Scientific Method Outline Sheet

Name: _____ Grade: _____

Teacher: _____

Question: What do you want to find out?

Hypothesis: Make a scientific guess about the result.

Materials: All the supplies you need to conduct the experiment.

Procedure: The steps you take to complete the experiment.

Results: What you discovered while performing your experiment.

Conclusion: The answer to your hypothesis based on the results. Be specific and explain what you learned and why.



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Sample Science Investigation Questions

Force and Motion:

- Does the number of coils of wire in an electromagnet affect its magnetic strength?
- Does voltage affect the strength of an electromagnet?
- Does the weight of a permanent magnet affect its strength?
- Does the height of a ramp affect the distance a toy car will roll?
- Does the mass of a car affect the distance it will roll from the bottom of a ramp?
- Does the material that the ramp is made of affect the distance a toy car will roll?
- Does the distance a rubber band is stretched affect how far it will fly when I released?
- Does the amount of weight suspended from a rubber band affect how far it stretches?
- Does the height from which a rubber ball is released affect the height that it bounces?
- Does the amount of air (pressure) in a basketball affect how high it bounces?
- Does the number of blades of a propeller affect how fast it will turn in the wind?
- Does the number of pulleys affect the force necessary to lift a weight?
- Does the length of a pendulum affect its period (time it takes to swing)?
- Does the weight of a pendulum affect its period (time that it takes to swing)?

Heat and Temperature:

- Does the temperature of the water affect how fast an Alka-Seltzer tablet will dissolve?
- Does the color of water affect the time it takes to freeze?
- Does the kind of water affect how long it takes to boil?
- Does the kind of water affect how quickly it will evaporate?
- Does the surface area of a container of water affect its evaporation rate?
- Does the depth of the water affect its evaporation rate?
- Does the temperature of water affect its evaporation rate?
- Does the color of a can affect its rate of temperature change when placed in the sun?
- Does the color of a crayon affect its melting rate?
- Does the shape of an ice cube affect how slowly it melts?
- Does the mass of an ice cube affect how slowly it melts?
- Does temperature affect the density of a liquid?
- Does the temperature of water affect the height at which an object floats?

Plants:

- Does the type of fertilizer affect the height that a bean plant grows?
- Does the amount of fertilizer affect the height that grass will grow?

Does the kind of water affect the number of leaves on a Marigold plant?
Does the size of a bean seed affect its germination rate?
Does the amount of sunlight affect the germination rate of radish seeds?
Does the amount of moisture affect the germination rate of pepper seeds?
Does temperature affect the height of petunias?
Does classical music affect the height of tomato plants?

Earth/Space and Environmental:

Does the kind of soil affect the rate of water erosion?
Does moisture affect the rate of decomposition in a compost pile?
Does the slope of the surface affect the rate of water erosion?
Does the kind of soil affect how much water it will hold (retain)?
Does salt affect the freezing rate of water? Does wind speed affect the evaporation rate of water?
Does the rotation of the earth (time of the day) affect the length of a shadow?
Does the kind of water (fresh or salt) affect how long it takes an ice cube to melt?