

What is the Armatage Science Fair?

The Science Fair is an opportunity for Armatage students to study a science-related topic outside of the classroom, and display it as a model or collection, or perform an actual science experiment. The purpose is to encourage in each Armatage student a sense of wonder and curiosity, and to increase self-direction in the study of the world around them.

A Note to Parents

Dear Parents,

You can be a real help and truly enjoy working on a Science Fair project with your child. Don't worry if you haven't created a project before – anyone can do it! First, become familiar with the guidelines for the fair. Tape the fact sheet from your packet on your refrigerator for easy reference. Next, allow plenty of time to do the project, at least 4 weeks. Try to set aside time every few days or so for work sessions. Make them short, about 20 minutes, to allow for slow, but steady, progress. This will accommodate a child's attention span and ensure that each session is pleasant.

Try not to get possessive about the project. Let it end up looking like exactly what it is: the work of a youngster learning about something that interests him or her. You will both feel considerable satisfaction when the project is complete. Your child may be asked to explain the project. It is wise to practice this so your child will feel more comfortable. Simply encourage your child to go through the project as if explaining it to someone who knows nothing about it. He or she might begin by telling how he or she became interested in doing this project, and then simply talk their way through the project step by step.

We hope this information will assist you in the role of guide. Have Fun!

Is the fair judged?

The Armatage Science Fair will not be judged, but students will be asked to display their project and maybe answer a few questions from teachers, classmates and parents. We want students to have an opportunity to show and explain what they have learned. Below is a list of possible questions that student may be asked.

Pre K to 3rd grade:

- What can you tell me about your project?
- Where did you get the idea for your project?
- Did you have fun doing your project?
- What did you learn from doing this project?"
- If you were going to do this project over again, is there anything you would do differently?
- Did anyone help you with this project?

4th and 5th grade:

- What inspired you to choose this topic?
- What question or problem were you trying to answer?
- Explain your hypothesis.
- How did you investigate your question or problem?
- What were your results?
- Were you surprised by your results?
- What would you do differently?
- Do the results apply to real life?
- What are your plans for next year?

How do I get started?

First, decide what kind of project you'd like to create - there are several different kinds:

- 1) *Experimental* Project, for which you follow the Scientific Method in pursuit of an unbiased result.
- 2) *Research* Project, for which you study a science-related topic, including mathematics, technology or even something you've invented!
- 3) *Collection* Project, for which you assemble a collection of related items, showing what you've learned from it.

4) *Demonstration / Model Project*, for which you can create a model or demonstration of your topic, showing how it works.

To get some ideas, look further in this packet. You can also stop by the Media Center where there are books with project ideas. Check out the public library or the Internet. Ask your parents and friends. Just don't give up. When considering a topic for your project, do not forget about technology and mathematics. Your project does not need to be from one of what we think of as a scientific field (e.g. biology, chemistry, earth science, physics), but it can investigate a mathematical question; learn about how a particular technology works, or use technology in an unexpected way. Inventions developed by the students are also welcome. In the past, some students have displayed biographical information about famous scientists. Every topic and project related to science, mathematics, and engineering is a good topic!

Who can I work with?

Scientists often work with other scientists on their projects. You can do a project with a friend or group of friends. You can also work with you parents, your brother, your sister, or other adults. The only rule is to give credit to everyone who helped with your project. Parents: Remember, the purpose of the Fair is to encourage kids to be curious about our world, learn to study independently and above all, to enjoy science! Your guidance will be necessary, especially for the younger kids, but keep in mind that this is their project. A kindergartner's project should look like a kindergartner's project, and they (and you!) will be proud of their own accomplishments.

I've decided on my topic. Now what?

Here are some steps you can take to have a successful Science Fair Project:

1. Ask yourself: "What is the question I want to answer?", or "What do I want to know more about?"
2. Decide if you are going to work alone or with a friend(s).
3. Fill out and turn in your registration form by February 21st
4. Research and read about your topic. Contact people who may help you.
5. Refer to the list of questions below for your project type. These will help you plan your project. By following this plan, you will answer your question.
6. Gather and list your materials.
7. Begin following the steps you have outlined in your plan.
8. If appropriate, organize your results in charts, graphs, or illustrations.
9. Look carefully at the results. Write down the answer to your question.
10. Make an interesting display board.
11. (Optional) Make a notebook about your science project.
12. Prepare to tell your teacher or classmates all about your project, if asked.
13. Bring your project to school on April 16th, between 7:20 – 8:30am and 2:00 – 4:00pm.
14. Retrieve your project after the fair and take it home.
15. HAVE FUN!!

Science Fair Web Sites

<http://www.sciencebuddies.org>

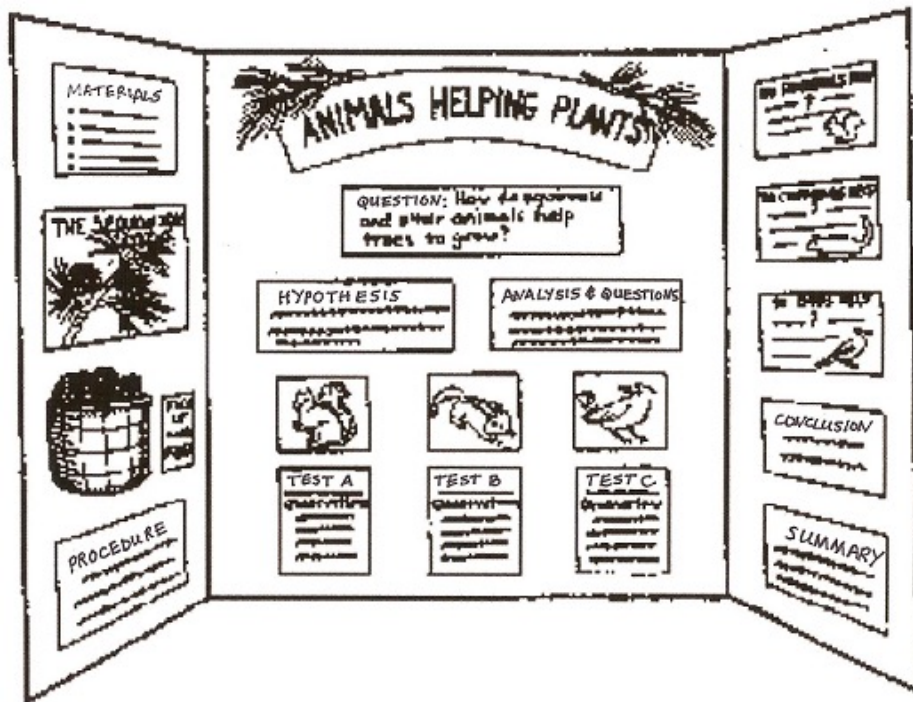
<http://www.scienceproject.com>

<http://faculty.washington.edu/chudler/neurok.html>

<http://www.sciencefair-projects.org>

How do I display my project?

Projects will be displayed on a 36"x 48" three-sided display board. You may also use the table in front of the display board (about three square feet of space). Here is an example of a basic three-sided display:



Content

Use the questions listed under each type of project to organize your display. You can either use the questions or the scientific terms to label it. The main thing is to make it easy for your parents, teachers and friends to look at your display and know what you did and what you found out. If you have a collection, model or demonstrations, prepare your display board telling about what you've done, and place the collection, model or display in front of your board.

Hands On/Hands Off

Decide if you want people to be able to touch your display or not. Displays that allow viewers to interact with your experiment or topic can be very interesting and fun. Please understand that hands-on materials will be left in areas where there often will be no supervision, and we cannot ensure that items will not be broken, mishandled, or stolen. Plan your hands-on materials with this in mind.

Putting it all together

When you have decided what to put on your display, lay the whole thing on the floor and look at it. Arrange it to your satisfaction, and then glue it on. Every person who helps with your project should be given credit somewhere on your display. Use your creativity to make it interesting! Examples of things to include are: large, bright or black lettering, pictures, diagrams, a catchy title, and a photo of yourself working on your project. When making the display, we suggest that everything be blocked in first with pencil. After changes are made, felt pens or cut stencils can be used for the final form. Put your name, grade and classroom prominently on your project, in the lower right hand corner of your display. There are plenty of pictures and examples of Science Fair projects on the internet. Spend some time looking at what others have done to get some good ideas for your display. Also, consider the grade level of the student before deciding on a project – younger students will want to pick simpler projects. And remember: it's OK if the display looks like it was created by an elementary school student!

Science Fair Safety Rules

In order for the Fair to be an enjoyable experience for all persons involved, there are some safety guidelines that must be followed.

1. No open flames are permitted.
2. No dangerous or combustible chemicals are permitted. (Rockets/other engines must not contain fuel.)
3. Dangerous substances, such as chemicals, drugs, poisons, etc. are not permitted.
4. All electrical safety rules should be obeyed.
5. Expensive or highly fragile items should not be displayed. If these types of items are essential to the project, use photos or simulations.
6. Students should avoid using live or preserved animals or parts of animals as part of their experiment. An exception may be made for sealed insect collections.
7. No active chemical reactions may be performed in the exhibit area. Examples of chemical reactions are vinegar and baking soda volcanoes, and Diet Coke/Mentos experiments. You may choose to do a volcano at home, but it may not be a hands-on activity in the exhibit area.
8. Avoid bringing open containers of liquid to the Science Fair as they can easily spill.
9. To help avoid the potential for allergic reactions, no food and drinks in the displays.
10. We ask that there be no samples that could be disruptive to the over science fair experience
11. No running or horse play