

Northwood SCIENCE FAIR packet

Dear Northwood Student & Parent/Guardian,

Thank you for your interest in the 2011 Northwood Science Fair. We hope you are excited about doing a science project. Science is amazing – and the project opportunities are endless (you can research plants, make rock candy, anything!). The internet has a bounty of ideas; several sights are listed at the end of the packet.

This packet contains information about what you will need to do to create an entry for the fair. First, here is the schedule:

March 2-9: Sign up for the science fair in the office. You need to have picked out your project in order to sign up.

Now-April 25: Do science project.

April 26: Come after school and set up your science project (room tbd).

April 27: Classroom viewing in the day time, families to view all during open house.

April 28: Pick up science project after school to bring home.

The remainder of this packet is the information the Napa County Office of Education uses for its Science Fair for 5th graders (with a few shortcuts added in for younger kids). We are giving this to you as a baseline for working on your science project. Parents will probably need to help interpret the packet for their children. Please don't hesitate to call if you have any questions.

Please remember students can do their project on teams of up to 4 people if they want. The people on the team do not need to be in the same class or grade.

Thanks much!

Debby Bird
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Science Fair Guidelines

Step 1: Ask a question: a science project must begin by asking a **QUESTION** – this is the first step in the scientific method. The question might be about:

- A. A scientific phenomenon, concept or famous scientist and their contributions/research (eg. volcanos erupting or Isaac Newton).
- B. How to create a device or invention that serves some sort of purpose, or improve on an existing one (eg. automatic dog feeder).
- C. Something you've observed in nature or in everyday life that you are curious about investigating (eg. Feathers fall slower than stones)

Based on the question you pick above, you will do **one** of these associated project types:



A. Portfolio – You become an “expert” on your scientific topic (concept or scientist) through research and in-depth study. You create a report (with bibliography for 4th/5th graders) about what you learned as well as creating three other pieces to accompany it (1 piece for k-2). These other pieces should each come from the following categories:

- ✓ **Art**- examples include: a cartoon, collage, diorama, drawing, puppet, origami, mobile or painting.
- ✓ **Language/Literature** – examples include: a brochure, crossword puzzle, fact sheet, journal/diary, song, poem, persuasive letter or newsletter.
- ✓ **Reference/Research**- examples include: a diagram, essay, graphic organizer, interview, map, outline, survey or timeline.
- ✓ **Technology**- examples include: an audio tape, circuit/board game, graph, model, original photos, power point, puzzle, spread sheet or video.



B. Invention- You develop a new idea or improve on an existing one. You plan, sketch and build a prototype and write a report stating the purpose and reasoning behind the creation of the invention.



C. Investigation- Conduct an experiment following the scientific method. Come up with a testable question, conduct research to provide background information about your testable question, identify your variable and include your hypothesis, procedure, results/data and conclusion. Data can be presented as a table, chart or graph, if appropriate. Conclusion must include analysis of data and why you think

you got the results you did. You will also discuss what you learned by doing the experiment and what value it has to your life or the lives of others.

Step 2: Sign up for the science fair in the office and list your project type/topic.

Step 3: Do your project. It is recommended you start right away by coming up with a schedule to pace your project for the 6-8 weeks you have before the fair.

Always keep **SAFETY** in mind:

In general, the following items are NOT allowed:



Toxic, flammable or otherwise potentially dangerous chemicals.



Exposed electrical parts or operating lasers.



Plant or animal tissue, moulds, bacteria, soil, or material that might decompose.



Latex, peanuts or other allergens.



As for the project itself, there is NO testing allowed on vertebrates, except by observation in natural settings. The project must cause no stress or danger to the animal.

If projects do involve human or animal subjects, be sure to get approval from your teacher prior to beginning your experiment. When in doubt, refer to the YSF safety guidelines (available at <http://www.ysf-fsj.ca/smarts/support/safetyethics.aspx>) which are updated regularly.

Last, but not least, **HAVE FUN!**



SCIENCE ROCKS!!

Inspiration for Science Fair Projects

All Science Fair Projects

Science fair projects with complete instructions. You can search ideas, browse topics and link to other useful sites.

www.all-science-fair-projects.com/

Discovery Education: Science Fair Central

Handbook for students, project ideas, links and books as well as Science Fair Organizer for those planning a science fair.

<http://school.discoveryeducation.com/sciencefaircentral/>

Free Science Fair Projects

www.free-science-fair-projects.net/

Science Buddies

A multitude of online resources for students, teachers, and parents tackling a science project.

www.sciencebuddies.org

Science News for Kids: Science Fair Project Ideas

Ideas, topics, tips and links. www.sciencenewsforkids.org/pages/sciencefairzone/topics.asp

Science Project.com

The world's largest web site for Science Project ideas, information and support. Fees apply for full access.

www.scienceproject.com

The Science Club

A non-profit educational organization with project ideas, Q&A and links.

www.scienceclub.org/

Science Projects for Kids

http://www.education.com/reference/article/Ref_NEED_Science_Fair/