

# The Byrd School Bi-Annual Science Fair



Thursday, February 9, 2012  
7:00-8:00 p.m.  
Byrd School Gym

Attention students:

On the evening of the fair, a treasure hunt questionnaire will be distributed. Once you have established your conclusion, **please send an email to [alisongb@gmail.com](mailto:alisongb@gmail.com) with 1-2 questions** that can be answered by looking at your project board. For example: "Pennies got the most shine when soaked in this liquid." Or, "What is the name of the experiment that concluded . . ."

Parents:

**If you signed up to help**, please come a few minutes early and plan to stay after the fair to help clean up. We need help distributing and explaining the questionnaires, and "floaters" to offer general assistance as needed.

Design an experiment using the scientific method below. Share your information at the Science Fair! Remember, good experiments start by asking good questions!

Examples of good science fair project questions:

- Do cut flowers last longer if you put them in warm water or in cold water?
- Does food cooked in a microwave cool at the same rate as food cooked in the oven?
- Will seeds germinate if you soak them in a liquid other than water?
- Does magnetism travel through all materials?
- Do violent video games affect your blood pressure?

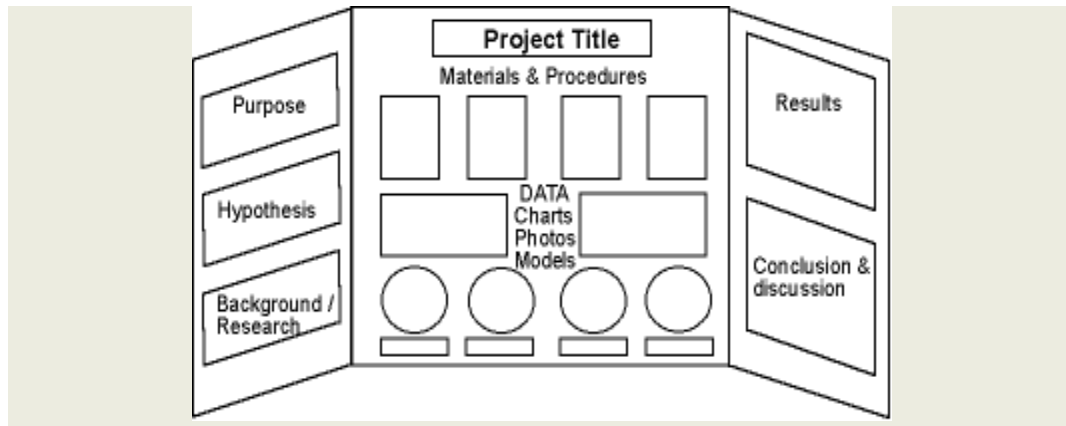
Here are some **guidelines** for your investigation:

1. **Find a topic** that interests you. There are websites that offer questionnaires to help you narrow your topic down.
2. **Research the topic** you want to investigate. Go to the library, use the Internet, read books and magazines, or speak with experts.
3. **Write down a specific question about the topic that you want to answer.** A scientific question usually starts with: How, What, Which, Why, or Where?
4. **Form a hypothesis.** What do you think the answer to your question will be? Write your guess and don't change it no matter what - even if the experiment proves that you are wrong.
5. **Design and conduct your experiment.** List and gather the things you need to test the question you have chosen. You should write this list. Consider the amount of time you have to conduct your experiment. If the experiment seems too complicated, simplify it and narrow your question. Be certain you can design a fair test to answer your question. A "fair test" requires that you change only one factor (variable) and keep all other conditions the same. If you cannot design a fair test, then you should change your question. Your question should involve factors or traits that you can easily measure, such as numbers, or factors or traits that are easily identified, such as colors.
6. **Record your results.** Photographs (taken throughout), drawings, charts and graphs help to explain your results. Be sure to identify what change occurred.
7. **Make a conclusion** by comparing the results to your original hypothesis.  
For optional fun, create a **proverb** based on your conclusion. Title your board with the proverb.

\*\* For a [better explanation of the proverb](#), see the attached *Science Daily* article.

For example, "Seven days without exercise makes one weak." 😊

You will need to prepare a **show board** to share your experiment and results. The boards will be provided. Your display should include your original question (purpose), your hypothesis, helpful background information, the data you collected, your results, and the conclusion.



Projects on display at the science fair may **NOT** incorporate:

- Fire, matches or candles
- Electricity (batteries or solar power only)
- Animals (dead or alive)
- Water (only small amounts please)
- Dangerous chemicals or sharp objects

Participants will be expected to stand by their show board at the fair in the evening from 7 p.m. - 8 p.m. so they may explain their work and answer any questions visitors may have.

Parents are **strongly encouraged** to stop by each poster and ask presenters about their work.

### **Day of Fair Instructions**

- 1) Bring your complete invention and show board to the Byrd School gym between 8:15 and 8:30 a.m. on the morning of the Science Fair, Feb. 9.
- 2) You may be called to come to the gym for a few minutes during the day to set up your experiment if necessary.
- 3) Return to Byrd School at 7:00 p.m. with your family for the Science Fair.
- 4) When you leave the Fair, please clean up your assigned spot and take your entire invention with you.

Any questions, please email Alison Bloomfield at [alisongb@gmail.com](mailto:alisongb@gmail.com).

Elaboration of #7 "Make a Conclusion" listed on the science fair guidelines...

## **A Proverb A Day May Make You Healthier**

ScienceDaily (Jan. 26, 2005) — It's time to add to our store of proverbs with new phrases that teach us how to be healthier, says a University of Toronto researcher.

In a paper published in the Dec. 2004 issue of the *Journal of Epidemiology and Community Health*, **Bernard Choi**, a professor in the Department of Public Health Sciences, suggests that we need to create new science-based proverbs that reflect current information about healthy living. "People often remember proverbs although they may not remember tables of data on calories or metabolic rates," says Choi, whose current research interests include knowledge translation.

"Proverbs such as 'eat to live, not live to eat' were created by our great-grandparents," says Choi, "A few hundred years down the road, we will be the great-grandparents. Maybe we have the responsibility to create new health proverbs based on clinical trials, rather than observations that haven't been verified."

Choi collaborated on the paper with his wife, Anita Pak, and their teenage children, Jerome and Elaine. Together they worked at creating proverbs that reflect today's public health principles, providing advice on such things as smoking, maintaining a balanced diet and being physically active. Their modern proverbs include:

- **The more you smoke, the more you croak (smoking).**
- **A tri-color meal is a good deal (nutrition, encouraging you to eat red, yellow and green fruits and vegetables).**
- **Seven days without exercise makes one weak (physical activity).**

"A proverb is usually a homely illustration of a great truth and is not meant to be a dry scientific statement," says Choi.