Dear Students and Parents,

The 2007 Margaret McKenny Elementary School Science Fair will occur on Friday, March 9. We are hoping to build on last year’s success when over 100 students gave presentations to their families, friends, teachers, and project evaluators.

This information packet contains the Science Fair Project form with instructions for its completion, a timeline to help you track important dates for your project, a worksheet and guidelines for organizing and preparing the presentation of your project, project ideas and internet resources for science fairs.

Also included is a volunteer response form. The Science Fair is seeking volunteers for mentors to act as resources for students preparing their projects and judges for the night of the Science Fair.

There will be a preliminary judging of experiments (on February 9th) only for students who would like to be eligible for the regional and state competitions. Both of these events are sponsored by Intel and are held later in the spring. Some special rules apply for students who may wish to participate in these wonderful events. See the Science Fair websites page for more information. Students who decide to submit their work on the February 9 deadline will be encouraged to show again during the McKenny Fair in March.

McKenny Science Fair Committee
Sara Staley, Coordinator
<table>
<thead>
<tr>
<th>Task</th>
<th>Date</th>
<th>Complete</th>
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<tbody>
<tr>
<td>1. Choose topic for your project</td>
<td>Jan. 19 – Feb. 2</td>
<td>________</td>
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<td>2. Turn in your completed entry form to teacher</td>
<td>Feb. 2</td>
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<td><strong>NO LATER THAN</strong></td>
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<td>3. Make your project</td>
<td>Feb. 2 – March 9</td>
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<td><strong>Helpful Steps:</strong></td>
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<tr>
<td>a. Organize your plan</td>
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<td>b. Write out your procedure</td>
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<td>c. Gather your materials</td>
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<td>d. Perform your experiment, write down your observations</td>
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<td>e. Begin work on your display</td>
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<tr>
<td>(If you did an experiment, make a special area for Problem, Hypothesis, Procedure, Results and Conclusion.)</td>
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<tr>
<td>f. Practice presenting your report.</td>
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<td>4. <strong>Bring your project to school</strong></td>
<td>March 9</td>
<td>________</td>
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<td>5. Pick-up project at end of Science Fair or Monday at school</td>
<td>March 9 or 12</td>
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Science Experiment Worksheet

**Choose a problem.** What do you want to explore? Ask a question about it. Choose something that interests you. Look in books. Get advice. Make observations.

**State your Hypothesis.** This is a statement, sometimes in the form of a question, that tries to explain what you think will happen. You can make a prediction. A hypothesis is an idea that is based on known facts or can be tested. Your hypothesis or question must be VERY CLEAR so that you can test it.

**Write your procedure.** Tell what you will do to test your hypothesis. Write down the materials you will need and each thing you will do. Like a recipe for your favorite food, other people should be able to take what you have written and do your experiment. Be sure that you are testing your hypothesis. Is there anything that you haven’t considered that could affect your experiment? Control your variables. A variable is anything that could change or vary during the experiment. If you want to study how seeds sprout in sand or soil, you will want to keep them at the same temperature and give them the same amount of water.

**Test your hypothesis.** Gather your materials. Follow your procedure. Make observations. Collect data and write down your observations.

**Organize your data.** Make tables, charts, or graphs. Take or draw pictures. Present your results and decide what your data tell you about your hypothesis. Write a summary.

**State your conclusions.** Tell what you found by doing this experiment. Was it what you expected?
Science Fair Project Guidelines

Display

The following are recommendations for displaying your Science Fair project:

- The backboard should be free-standing and made of any material that will support its own weight.

- It will need to stand on a table and fit in a space approximately 36 inches wide and 14 inches deep.

- Cardboard display boards specifically designed for Science Fair presentations are available at stores such as Michael’s for about $5.00.

- You may have other materials as part of your display, but please keep them small. They should ALL fit in the 36 x 14 inch space you have for your display.

- Large displays may need to be placed on the floor.

- Please avoid glass if at all possible. This is a safety matter.

- If you have any special needs for your display, please check the appropriate box on the Science Project Form or contact one of the Science Fair coordinators.

- The number of electrical outlets available for displays is very limited. If you did not identify a special need for electricity on your Project Form, we cannot promise that it will be available.
Layout

General features:

- The project title should be in LARGE LETTERS on the center panel OR be a banner across the top. Include your name and school.

- If you use a computer to print your text, use large enough font (22pt or greater) so your presentation can be read from 4 feet away. If you print it by hand, use BIG letters.

- This is 24pt font.

There are two basic approaches to laying out a scientific poster.

1. “On-Center”
   a. The project title should be in LARGE LETTERS on the center panel with any special pictures or graphs. Other photographs, drawings or charts go on the side panels.
   
   b. It is suggested that you state the problem (Question) on the center panel, put the hypothesis and procedure on the left panel and the conclusion and results on the right panel.

2. “Left-to-Right”
   a. Put a short introduction or statement of the problem or question on the left panel, followed below on the left with a section on what you did.

   b. Your results section tells what you found and is usually placed in the center panel with pictures, graphs or tables.

   c. A discussion of why you think it turned out the way it did or why it is important should go on the left panel with any references you may have used.
Science Project Ideas

Animal Studies
1. What foods do mealworms prefer?
2. Does holding a mirror in front of a fish change what a fish does?
3. Do earthworms react to light and dark?
4. Does surrounding color affect an insect's eating habits?
5. How do mealworms react to various surfaces?

Human Studies
1. Is using two eyes to judge distance more accurate than using one eye?
2. How accurately do people judge temperature?
3. Does exercise affect heart rate?
4. Which group of students in class has the greatest lung capacity?
5. How does coffee affect blood pressure?

Plant Studies
1. Do plant roots always grow downward?
2. Does it matter in which direction seeds are planted?
3. What percentage of corn seeds in a package will germinate?
4. Can plants grow from the leaves?
5. Can plants grow without soil?
6. Do plants grow bigger in soil or water?
7. Do different types of soil hold different amounts of water?
8. Does the color of light affect plant growth?
9. How does light direction affect plant growth?
10. How does chlorine affect plant growth?
11. Does temperature affect plant growth?
12. Do different kinds of apples have the same number of seeds?
13. Do living plants give off moisture?
14. Which cheese grows mold the fastest?
15. What factors affect the growth of bread mold?

Chemistry
1. What kind of juice cleans pennies best?
2. How does omitting an ingredient affect the taste of a cookie?
3. Does warm or cold water freeze faster?
4. How long will it take a drop of food dye to color a glass of still water?
5. Which materials absorb the most water?
6. Which dissolves better in water - salt or baking soda?
7. What oil type has the greatest density?
8. How is the rate of melting snow affected by color?
9. Which materials keep ice cubes from melting for the longest time?
10. Does baking soda lower water temperature?
11. Does the color of water affect its evaporation?
12. Will water with salt evaporate faster than water without salt?
Physical Sciences

1. Can the design of a paper airplane make it fly farther?
2. Do all objects fall to the ground at the same speed?
3. What kind of things do magnets attract?
4. Does water with salt boil faster than plain water?
5. Does an ice cube melt faster in air or water?
6. Can you tell where sound comes from when you are blindfolded?
7. Can things be identified by just their smell?
8. Does the length of a vibrating object affect sound?
9. Which metal conducts heat best?
10. Does the viscosity of a liquid affect its boiling point?
11. What materials provide the best insulation?
12. Do liquids cool as they evaporate?
13. Does the color of a material affect its absorption of heat?
14. Does sound travel best through solids, liquids, or gases?
15. Is the amount of erosion affected by the slope of land?

Consumer Testing

1. What brand of raisin cereal has the most raisins?
2. With which type of battery do toys run the longest?
3. Which laundry detergent works the best?
4. Which popcorn brand pops the most kernels?
5. Which diaper brand holds the most moisture?
6. Which plastic trash bag is the strongest?
7. Does temperature affect the results of a soft drink challenge?
Websites for Science Fair Information

Intel Science Talent Search  http://www.sciserv.org/sts/

South Sound Regional Science Fair  March 24, 2007  http://www.plu.edu/~scifair/
The SSRSF will be held at Pacific Lutheran University. All K-12 students from both public and private schools in Pierce and Thurston counties are invited to participate. There is no registration fee. Registration deadline is 2/28/07. See website for additional requirements.

It is open to all Washington State students in grades 1 through 12. Kindergarten students may enter as first grade students. A nominal registration fee is charged. It is affiliated with the Intel International Science and Engineering Fair (http://www.sciserv.org/isef/). Registration deadline 3/10/07. See website for additional requirements.

Science News for Kids  http://www.sciencenewsforkids.org/articles/ScienceFairZone.asp

Dragonfly (PBS Science)  http://pbskids.org/dragonflytv/scifair/

Science Fair Central at The Discovery Channel  http://school.discovery.com/sciencefaircentral/

Science Fair Resource Pages for Elementary Schools  http://www.netrovision.com/elementary-sciencefair/topicIdeas.htm


Science Fair Projects with fast-growing plants.  http://www.fastplants.org/resources/student.html


The Internet Public Library.  
http://www.ipl.org/youth/projectguide/  
http://ipl.si.umich.edu/youth/projectguide/

Science Fair Project Form Instructions
Due Date: March 9, 2007

1. Put your name on the Science Fair Project form with the title of your project.

2. Check the box if you are doing an EXPERIMENT or DEMONSTRATION project. (If you are not sure, see the descriptions below.) Check the JOINT PROJECT box if you are doing a project with another person in your class or with a brother or sister in another class. Write the names of your project partners.

3. Check the box for your grade and write your teacher’s name.

4. Check if you have any special needs (if you need electricity, have an aquarium, have liquids). Very large projects may need to be placed on the floor.

**Project Types:**

**Experiments** are projects that use the Scientific Method to study a question of interest to you.

**The Scientific Method**

**Choose a problem.** Choose something that interests you. Choose something you have seen or heard something about. This is your idea for the project. Ask a question about it.

**State a HYPOTHESIS.** This is a statement, sometimes in the form of a question, that tries to explain what you think will happen. Your hypothesis must be very clear so that you can test it.

Examples: If I add salt to water, what will happen?
If I add salt to water, how long will it take to boil?
As I increase the amount of salt in 1 cup of water, the time it takes for the water to boil decreases.

Each is an example of a hypothesis. Each asks a question or makes a prediction about your observations.

**Test your Hypothesis.** Gather your materials together; follow the procedures you need to test your idea. Collect data and write down what you observe in a journal or notebook.
Organize your data. Make tables, charts, or graphs that help you decide what your results tell you.

State your conclusions. This is your chance to give your ideas about what you found, what worked or did not work, and why you think what you found is important. Decide what your data tells you about your hypothesis based on your results. Think about what you might do to experiment further. Communicate your results to others.

Demonstrations are projects that are meant to provide information about a science or engineering topic, but not necessarily testing hypotheses and providing real data that you collected in experiments. These include working models of cars, engines, or volcanoes, displays of the solar system, etc. These can also include consumer testing such as which brand of batteries last longer.

Joint Projects are done with other members of your family or your class. Please include their names on the project form.

ONLY ONE FORM IS NEEDED FOR EACH PROJECT.

Special Needs:
We have VERY LIMITED SPACE available for projects with special needs. The limited number of electrical outlets in the gymnasium means that we are only able to accommodate one or two projects that require electricity. We encourage students to avoid projects that require electricity at all costs. This is a safety as well as a practical matter. Wet displays (liquids in containers) or aquaria may need to be positioned along the outer wall. Finally, projects should be designed to fit in a 36 inch wide by 14 inch deep space. Oversize projects may need to be displayed on the floor.

PLEASE RETURN TO YOUR TEACHER NO LATER THAN February 2, 2007

We need this information by this date so that we may order the correct number of tables for the displays and the ribbons for the participants. It will be very difficult for us to accommodate late submissions.

Questions? Ask your teacher or contact: Sara Staley
SF Coordinator
(360) 705 - 8954
Science Fair Project

1. Name: ____________________________________________

Project Title: ____________________________________________

2. Project Type (Check all that apply; see instructions for
descriptions):

☐ Experiment

☐ Joint project (with a classmate or brother or sister)
   Partners: ____________________________________________

☐ Demonstration

3. Grade (Check all that apply):

☐ Kindergarten Teacher: _________________________________

☐ 1st Grade Teacher: _________________________________

☐ 2nd Grade Teacher: _________________________________

☐ 3rd Grade Teacher: _________________________________

☐ 4th Grade Teacher: _________________________________

☐ 5th Grade Teacher: _________________________________

4. Special Needs: ☐ Electricity (VERY LIMITED SPACE is available)
   ☐ Wet display ☐ Other: _________________________________
   ☐ Aquarium

PLEASE RETURN TO YOUR TEACHER BY
FEBRUARY 2, 2007
Science Fair Volunteers

The Margaret McKenny Elementary School Science Fair will be held on Friday evening, March 9, 2007. The Science Fair Committee is asking for volunteers in the following areas:

Mentors would advise students as they develop projects, and provide guidance on topics, design, and presentation of results. Mentors would be available to advise students either at school or via the phone or email. Mentoring would begin as soon as project proposals have been submitted.

Science Fair Judges will evaluate the projects on the night of the Science Fair. Judges will use an evaluation sheet (a checklist of key elements to consider) and provide constructive feedback to the students. Evaluation and feedback are essential elements to the success of the program.

*You do not need a science background to be a mentor or judge.*

Volunteer Response Form:

Name __________________________________________________________

Phone _______ Email ____________________________________________

(   ) I am willing to serve as a mentor to students.
(   ) I am willing to serve as a Science Fair judge on March 9.

So that we may better match your interests with those of the students, please indicate your science background, experience, or expertise.

_________________________________________________________________

If you have a preference, indicate the grade level you would be willing to mentor or judge:  K  1  2  3  4  5  All

Please return the form to the school

**NO LATER THAN**

*Friday, February 2, 2007*