Oakridge Elementary Science Fair 2008

Science is fun!

Science is cool!

The Oakridge Elementary School Science Fair is scheduled for **Tuesday, January 29th, 2008**. All students in grades K-6 are invited to participate in the fair. Students in grades K-2 will only participate on a school level because the district does not have a fair for these grades. Students in grades 4-6 have the opportunity to participate at the district level.

The focus on this year's science fair is once again to have fun with science and for the kids to learn about the scientific process. Everyone can do science and a science project is the best hands-on way to learn about science. A student's interest in science is actually greatest during the elementary years, so take advantage of this time with your children.

Dates/times

All grades will have their Science Fair on **Tuesday, January 29th**

Projects are due in the multipurpose room no later than 8:45 am on Tuesday, January 29th. Projects can be checked in beginning at 3 p.m. on Monday, January 28th.

K-2nd grade students will only be judged in the morning because these children will not move on to compete at the district level.

3 –6th grade students will initially be judged in the morning to identify the finalists. Final judging will occur in the afternoon to select the top 3 projects for each grade.

Judging

The Science Fair is an opportunity for students to learn about science and to have a lot of fun in the process. The judges will provide a sheet with comments intended to be helpful and positive for the student.

Grades K-2

For this age group, we want to get the kids excited about science and participating in the fair. We want to keep it a positive, non-competitive experience. We will not be selecting finalists or top projects for this age group. The judging form is designed to help evaluate the project, identify strong points, and provide positive feedback.
Students may work in pairs or on an individual project.

Grades 3-4

For this age group, participation is still voluntary and both demonstrations and experiments are allowed. Feedback from the judges will be positive, but constructive suggestions for improvement will be given as well. Since we need to choose the top projects to send to the district showcase, the judging form will have numerical scoring and will generally follow the district's criteria. Logbooks outlining data collection are encouraged. Students may work in pairs, however individual projects encouraged.

Grade 5 –6

For this age group, students determined in September whether or not they would participate. Experiments using the scientific method are required in 5th and 6th grade. Feedback from the judges will be positive, but constructive suggestions for improvement are very important and will be provided as well. Since we need to choose the top projects to send to the district fair, the judging form will have numerical scoring and will generally follow the district's criteria. Logbooks outlining data collection are required. A paper summarizing the project is optional.
Oakridge is requiring individual participation instead of group work at this level.

Awards

All students will receive an Oakridge Science Fair ribbon and certificate of participation. The finalists in grades 3-6 will receive a "finalist" ribbon and the top three projects will receive a District Qualifier ribbon indicating that they are eligible to move on to the district science fair.

District Fair

Oakridge's top three 3rd and 4th grade projects will go on to a 'District Showcase' (new this year) to be displayed at that level on April2, 2008. 3rd and 4th grade district qualifiers will not be judged at the district. Oakridge's top three 5th and 6th grade projects will go on to be judged at the District Fair on March 4, 2008. The top district projects will then be invited to the Regional Fair on March 28, 2008. More information regarding the district fair and helpful links available at: http://www.granite.k12.ut.us/jr/churchill/staff/wood/.

Science is cool!

Science is Fun!

Choosing A Topic

If your children are interested in doing a science project, help them choose an appropriate topic. It is very important that the project be interesting to your child. If it is too broad or complicated it will discourage them. At this level, originality is not a requirement (however there will be points for a creative and original project idea on the judging sheet). Information regarding topic selection can be found at the library and online. Parent volunteers will be going to each class to generate interest and to give students ideas.

Parent Involvement

Parental help is needed for direction and encouragement and to help with projects that involve building something, etc. The most important element is that the child should participate fully in the project and the child must acknowledge the help that they receive. For example, the child can place an acknowledgment in the corner of their poster. Students will be interviewed about their projects as part of the judging process, and should be able to answer questions about the topic and procedures. Students benefit most when they have done all the work. So, think about helping your child select a project that is appropriate for their age level.

Display Boards

Display boards are used to present the student's project. Graphs, charts, diagrams, photographs and other printed information should be presented neatly on the board. The hypothesis, methods used and conclusion should be clearly identified on the board. The boards can be purchased at the front office for $1.50.

Granite School District Rules

Projects

The projects to be entered in the district fair must deal with a recognized area of science. Broad classification of displays include:

Life science-behavioral and social sciences, instruments, marine biology, genetics, botany, environmental, medical, microbiology, zoology, biochemistry, etc.
Physical science/earth science- instruments, fossils, rockets, crystallography, radioactivity, space-related science, computers, chemistry, engineering, physics, mathematics, etc.

Participation

Students may enter only one project. Individual projects are encouraged, but paired teamwork projects in grades 3-5 are permitted.

Science Journal or Log Book

Each experimental project should have a day-to-day, or week-by-week journal or logbook showing the development of the project. This is required for 5th and 6th grade, encouraged for 3rd and 4th grade and optional for grades K-2.

Cautionary/Unacceptable Displays

Do not create a display with batteries with open-top cells, tanks of combustible liquids or gases, flames, highly-flammable materials, poisons, drugs or controlled substances, sharp item, taxidermy specimens or parts, photographs or other visual presentations depicting vertebrate animals in other than normal conditions, microbes, living animals, dangerous chemicals, waste samples, open food.

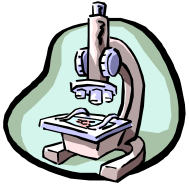
Acceptable for display only at Oakridge

Items that are for display only include: Unshielded belts, pulleys, chains and moving parts with tension or pinch points, vacuum tubes or dangerous ray-generating devices, pressurized tanks of non-combustibles, high-voltage equipment, wiring, switches. Students can only display these items at the school science fair – not at the district fair.

Extension cords

Project participants are required to furnish their own grounded electrical extension cords if needed.
Safety: Proper attention to safety is expected of all science far participants. Anything that could be hazardous to public display is prohibited. Please let the science fair coordinators know if you will have an extension cord so that your project can be set up near an electrical outlet.

We are looking forward to a great science fair and hope that you will have fun with science. If you would like to help with the science fair, please contact Stephanie Schmid at 569-2248 (stephanie_schmid@adp.com) or Melissa White at 942-1214 (doug4mel@earthlink.net).



Online Science!

Science fair project ideas:

One of the hardest parts of the science fair is deciding on a project. A good project should:

- Be fun
- Help you learn something that you did not know before
- Demonstrate creativity
- Be unique
- Show off your knowledge about the world that we live in

The best ideas come from something that you wonder about, or from something that interests you. If you are having trouble coming up with ideas, there are many books at the library and numerous web sites with ideas. The downside of using a project from a book is that other students might pick the same idea! So look hard for something that you have not seen before, or use an idea from a book and change it. If you do get information from a book remember to include a reference in your project.

Get answers to these common science questions:

Why do leaves change color in the fall?

Why is the sky blue?

What is static electricity?

How do animals spend the winter?

Fun Science Web Sites

Here are a number of different web sites, which offer great information and ideas about the science fair. Check out the different sites and find a fun idea that will work for you!

http://faculty.washington.edu/chudler/fair.html

http://sciencefairproject.virtualave.net/

http://physics.usc.edu/~gould/ScienceFairs/

http://school.discovery.com/sciencefaircentral/

http://www.ipl.org/youth/projectguide/

http://www.hhmi.org/coolscience/

http://www.usoe.k12.ut.us/curr/science/StudentSci/scisites_students.htm

THE SCIENTIFIC METHOD

IDENTIFY THE PROBLEM

This is an important step in the scientific process. Topics can be very large and often need to be narrowed down to something that is easier to study.

REFER TO AUTHORITATIVE SOURCES

Reading books, magazine articles, pamphlets and brochures will help the student learn about their topic of interest. All good scientists will first learn basic facts about their subject before conducting their research. A visit to the local library, a trip to the Zoo or Aviary or visiting a local gardening shop may help the student learn new information about their topic.

ASK AN APPROPRIATE QUESTION

If a student is interested in plants, asking various questions related to plants may help the student to choose a topic. How do plants grow? What nutrients are needed? How much water do they need? Can they grow using different liquid than water?

DEVELOP A HYPOTHESIS

A hypothesis is an educated guess; a statement of how the scientist thinks the experiment will turn out. It is a prediction, based on the best available information, of what the scientist believes will happen at the end of the experiment. An example is: Plants will not grow without sunlight or clothes will be cleaner using the hot water cycle of the washing machine rather than the cold water cycle.

CONDUCT AN EXPERIMENT

This involves testing your hypothesis. A student will learn what happens when a condition is created or changed. To determine whether plants will grow without sunlight can be tested by planting a group of plants and then allowing some to have sunlight and others to have no contact with the sun or light of any kind. What happens to the plants? Can your questions be answered?

KEEP DETAILED RECORDS OF METHODS AND RESULTS

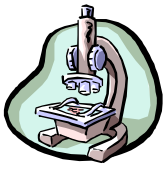
In order to come to a conclusion, students should keep a log or record of their work. Observations and summaries of the “events” of the experiment will help the student find the answer to their questions. They will then be able to analyze the results of their experiment.

ANALYZE THE RESULTS

What facts or numbers were produced as a result of your experiment? Analyzing the results allows the student to look at the information from the experiment and develop a conclusion or answer to the questions that were originally asked. It is often helpful to summarize findings in a graph or table of information.

DEVELOP A CONCLUSION

The conclusion should provide some answer to the original question. For example if your hypothesis was that clothes get cleaner using the hot water cycle and if in fact, through your experiments, you discover that this is true, then your conclusion would be that clothes do become the most clean using hot water. It is often most interesting when the hypothesis is found to be incorrect. The experiment proved something else to be true!



Oakridge Science Fair
Starting Your Project – Six-Week Schedule

Date of the Science Fair: _____

Date to begin working on project: _____

Scheduled Weekly Events:
Scheduled Date: Actual Date:

Week 1:

- Choose a topic or problem to investigate.
- Start a journal to keep all your notes and research along the way.
- Begin primary research: Write for information from experts, scientists, businesses, etc.
- Set up interviews when necessary.
- Begin secondary research: Search printed sources (books, journals, magazines, internet, etc.)

Week 2:

- Decide how to set up your investigation or experiment, including the procedure and necessary materials.
- Continue gathering research for your journal.
- Interview experts for more information.
- From your initial research, write your hypothesis.

Week 3:

- Start your experiment or demonstration collection. Record observations in your journal.
- Begin collecting or purchasing materials for your display.
- Consult with experts to check your progress.
- Start to design your visual aids.

Week 4:

- Continue to record observations from your experiment in your journal.
- Continue collecting items for your display.
- Finish all preliminary designs for your display.

Week 5:

- Start assembling your display unit.
- Begin designing signs, labels, charts, graphs, or other visual aids for display.
- Write text for background display and plan its layout.
- Continue to record observations from your experiment.
- Take any photographs you need.

Week 6:

- Complete your experiment or collection. Analyze observations and write up your results.
- Have photographs developed and enlarged (if necessary).
- Type explanations or background information and mount them on display.
- Finish constructing your display, including graphs, charts, and/or visual aids.
- Transport your display and materials to Science Fair, set it up, and test it.