Introducing Science Projects

Dear Parents:

Your child's classroom will be working on science fair projects in the months of February, March & April. To facilitate these projects, the classroom will receive three visits from instructors at the Science Program to Inspire Creativity and Excellence (SPICE), a University of Oregon science outreach program. SPICE instructors will introduce the children to science projects and the scientific method, will help children refine a project idea and set a timeline, and teach them how to interpret and present their results.

Your child will select a research question and develop a project that answers that question. These projects will be presented in class. Your student will also have the option to enter his/her experiment into the UO Science Fair, April 21st, 2012. Please see the attached flyer for more information about the science fair.

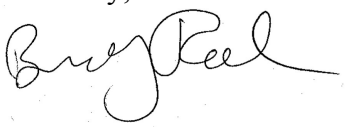
Through time management and project planning, your child will take on the responsibility of completing a project over at least a five-week period. Your child will discover his or her creativity by brainstorming science project questions and figuring out how to display the process and results. A science project, through its challenge to ask questions and discover is truly a real-world experience in innovation, similar to what scientists do in their careers.

We will provide your child with sufficient support to succeed, so that he or she develops enthusiasm for scientific discovery. First your child will accomplish each step of the project by doing homework assignments. We will review the assignments at key checkpoints along the way, so that you won't face helping your child do a project the last night before the fair. Second, we have included a basic guide (enclosed) of how to help without getting over-involved. SPICE is also offering project mentor for students with challenging projects. Please contact your classroom teacher if you would like to sign your child up for mentoring.

You will have the opportunity to approve the project your student selects by signing a Science Project Proposal Form.

If you have any questions please email me at btodd@uoreogn.edu or phone at (541) 346-4313.

Sincerely,



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SPICE!

Parent's Guide to Science Projects

Information on the Scientific Method

Science projects should follow the six-step scientific method. Your child will be learning about the scientific method and practicing it during SPICE workshops. The chart below shows the steps for conducting a project using the scientific method and gives some advice for helping your child develop and carry out his/her project.

Time Management

Attached you will find a project planning sheet that will help you child identify key deadlines for completion of the project. Please discuss the project with your child and keep these dates in mind when planning family events. Any time you can spend talking/working with you child on the project will be a huge help in reinforcing good time management skills.

How to Help

As your child works on this project he or she will likely face stumbling blocks. To help, ask questions that get your child thinking out problems rather than simply providing answers. Open-ended questions, such as, "What else could you try? And "What's stopping you from completing this step?" will help your child think about the problem in a new way.

Sometimes just talking about the problem can help a child get unstuck. If that is not working talk with your child's teacher or contact the SPICE mentors for more advice.

Respect your child's independence in learning and helping at the right level. Younger children will need more assistance, especially with task requiring strength or manual dexterity. When helping your child with a project, remember you are an assistant; you child is the scientist and project director. Respect his or her decisions (even if you think you know a better way).

Helping at the Right Level at Every Step

Project Step	Good Help	Going to Far
Ask a Question	Discuss with your child if an idea seems practical	Choosing your child's topic or question
Background Research	Take your child to the library Help your child with an internet research Read articles to younger children and interpret unfamiliar words	Do an internet search and read all articles yourself. Telling your child which facts are important.
Hypothesize	Asking how your child's hypothesis relates to an experiment he/she is capable of carrying out.	Write the hypothesis yourself.
Design the Experiment	Ask questions about the feasibility of the experiment: How will your child measure what he/she wants to know? How long will it take to carry out the experiment? Are there safety/materials concerns?	Writing the experimental procedure. Telling your child step-by-step what to do.
Collect Data	Help your child set up complicated pieces beyond their dexterity. Assist with materials. Handle potentially dangerous components of the experiment	Carrying out the experiment yourself.
Analyze Data and Draw Conclusions	Ask how your child will record the data. Remind your child to tie data back to hypothesis.	Interpreting results for your child. Drawing graphs and figures for your child.
Communicate your Results	Act as an audience for the presentation Give constructive feedback	Writing any of the text for the presentation. Selecting layout and color scheme

This handout was adapted from information available at www.sciencebuddies.org

Science Project Planning Form

Student Name:

The question I plan to investigate in my experiment (please phrase as a question):	
Describe how you will measure what you want to learn?	
Is your experiment safe? If there are safety concerns, how will you control them?	
Do you have the materials you will need to carry out the project? If not, can you easily get them? Will you need help getting materials?	
Time Planning:	
How long will it take to gather the materials and supplies you need?	__ Hours ___ Days ___ Weeks
How long will it take to set up the experiment?	__ Hours ___ Days ___ Weeks
How long will it take to collect the data?	__ Hours ___ Days ___ Weeks
How long will it take to clean up the experiment	__ Hours ___ Days ___ Weeks
How long will it take to analyze the data and prepare the project board?	__ Hours ___ Days ___ Weeks
Time of the unexpected? If one of these steps goes wrong, how much time do I think it will take to get back on track?	__ Hours ___ Days ___ Weeks

Total Project time: add up all the hours/days/weeks you listed above. If the total is more than 5 weeks, you may need to rethink your project

Project Total Time? _____

Share this sheet with your teacher and parents and get their advice.

2012

University of Oregon Science & Invention Fair

Who:

K-12 Students in Lane County

When & Where:

April 21, 2012 - 11:00am-3:00pm
Willamette Hall - UO Campus

What:

A chance for Mad Scientists, Inventors and Investigators of all kinds to show off your skills.

Sign up and bring your amazing experiment or invention.

More Information

http://oco.uoregon.edu/spice/

Registration Information

Registration Fees

Registration for the Fair is $20 and includes a regulation tri-fold display board and instruction materials.

Scholarships

Scholarships are available to cover registration fees and Project Materials. Students who wish to request a registration scholarship should include a brief essay. See registration form for Information.

Students who need support in purchasing supplies for their project should submit a scholarship request form and a project outline.

Both forms can be found online at http://oco.uoregon.edu/spice

Instructions & Rules

The complete instructions will be available on our web site after February 17, 2012 http://oco.uoregon.edu/spice/

To recieve science fair updates contact Brandy Todd and request to be added to the email list (btodd@uoregon.edu)

Basic Rules

The project you present should be your own original work. Students are allowed to present group projects. Projects must fit within the space of the tri-fold board. No live animals or objects requring power. Contact the coordinator by April 10th if you need a special accomodation for your project

Contact Information

UO - Brandy Todd (541) 346-4313

4J - Malvina Holloway (541) 790-7583

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