Jennings School 5th Annual Science Expo
For Grades 2 through 5

Dear Student,

The PTA is proud to sponsor our **5th Annual Jennings School Science Expo.** Students in grades 2 through 5 are invited to hypothesize, experiment, and question. Students will display their findings on **Thursday, March 19 from 6:30 p.m. to 8:00 p.m.** in the Jennings School Gym. Parents and siblings are invited as this is not a drop off event.

The enclosed material will outline the initial information requirements for participation. Highlighted below are a few general rules/tips to keep in mind for the Expo.

- Students should have FUN deciding on a science project… all you need is an idea and a prediction, a.k.a. - hypothesis! For assistance, a sample project is attached. Use this sample and the blank guideline for reference when creating your experiment and display. Try to investigate something of interest to you. What have you always wondered about? Don't be afraid to ask questions like "What would happen if???"

- Students may enter the Science Expo as individuals or in teams of two. Teams greater than 2 students will NOT be considered.

- No open food items are allowed for the physical display at the Science Expo. Food items must be carefully and securely sealed or you can take pictures for your display.

- The Jennings School library and the Fairfield Woods Branch Library both have wonderful resources to help you come up with an idea. The following websites are a good resource as well:
    - www.sciencebuddies.com
    - www.sciencefairadventure.com.
    - http:\\pbskids.org/designsquad
    - www.exploratorium.edu/explore/activites
    - http://www.pbs.org/parents/education/science/tips/exploring-science/
    - www.eie.org/
    - http://www.inquiryinaction.org/

- Please feel free to contact Kathleen Ruppert (kruppert@fairfieldschools.org) or Phaedra Taft (psntaft@gmail.com) with questions about the Expo. Students may also check in with Mrs. Ruppert at school if they have questions as they design their experiments.

- **The deadline for paperwork submission to participate is Friday, March 6th.** Please return your completed participation form in an envelope marked "Science Expo" to the Jennings Office.

We are looking forward to a wonderful variety of science projects across the grade levels!

Thank you,
Kathleen Ruppert and Phaedra Taft

Tips for Exploring Science with Children

A common science question from adults is, “How can I explain such a hard concept in a simple enough way for my child to understand?” Find the most effective strategies and suggestions for exploring science with children.

Explanations Do Not Always Help

Explanations, even simple ones, do not always help children (or adults, for that matter!) understand complex ideas. So what’s a parent to do? The simple answer is to worry less about explaining to your child, and spend more time modeling the fun of science: going on walks, mixing things, testing to see what will happen, observing carefully and wondering along with your child.

Science Is About Trying to Make Sense of the World

Science is not simply about knowing information—it is equally a way of trying to make sense of the world. Scientists must ask questions, design investigations, try to make sense of the information they have gathered during the investigations, and communicate and defend their thinking to others. They don’t always find the answers to their questions, and they don’t always agree.

Help Children Think Like Scientists

It is much more important for parents to help children develop the skills they need to think like scientists than to help them understand complex scientific concepts. Even the youngest children are quite capable of beginning to build these skills.

Here are a few pointers to keep in mind as you enjoy science alongside your child:

You don’t need to have answers for all of your child’s questions! Encourage your child to develop his own science thinking skills.
Listen carefully to your child. Engage her in conversation about what she thinks, and encourage her to explain why she thinks as she does by asking questions such as, “Why do you think the snail is eating that leaf?”

Don’t immediately correct your child. If your child says something scientifically incorrect, help her discover for herself what is correct rather than correcting her. For example, if she says “heavy things sink, you can ask her, “Which heavy things have you seen sink?” Or, “I wonder if we can find something heavy that can float?”

Model curiosity. Wonder aloud: “I wonder what will happen to this pudding mix when we put the water in?”

Children develop at different rates. Keep this in mind as you do science activities with your child.

Taken from Tips for Exploring Science with Children
http://www.pbs.org/parents/education/science/tips/exploring-science/

Example of Scientific Process- Corny Goo

Question

I wonder what will happen if I mix cornmeal and water together?

Hypothesis (Prediction- What do you think will happen?)

I think the mixture will be gooey and will harden in the air.

Materials:

water
2 tablespoons of cornmeal
bowl
spoon

Procedure:

1. Put two tablespoons of cornmeal into the bowl.
2. Add a tablespoon of water to the cornmeal, stirring well with the spoon. Keep adding water a few drops at a time until the goo is thick and creamy.
3. Pick up the goo and roll it between your fingers. Stop rolling- what happens?

What was the outcome? What did you observe?

When you roll the goo, if feels dry and hard, like a solid. When you stop rolling, it slowly spreads over your fingers, like a liquid.

Why does this happen? When you roll cornmeal and water, the particles are forced together. When you stop rolling, the cornmeal and water separate again. Corny goo behaves like quicksand.

What does this make you wonder? What could you change?

This is the time to test your experiment in a new way. What if I used more cornmeal? What if I used more water? What if I used orange juice instead of water? These changes are called variables. To test these variables, change only one at a time.

Student Planning Sheet

Question:

Hypothesis (Prediction- What do you think will happen?)

Materials:

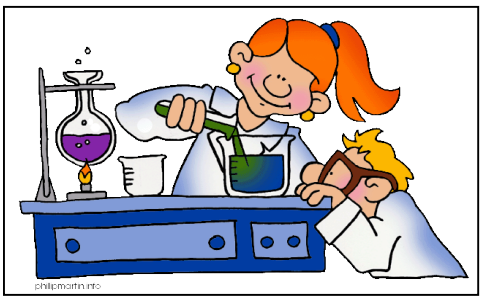
Procedure:

What was the outcome? What did you observe?

What if??? What does this make you wonder? What can you change?

Science Expo

Participation Form



Forms Due by Friday, March 6th.

Student (s) Name: _____

Grade Level and Teacher: _____

Telephone: _____

Parent Email: _____

Investigable question stems:
What affect will changing the (variable) have on the (measurement)?
What will be the effect of (variable) on (measurement)?
If I change (variable) then what will happen to the (measurement)?
What does changing the (variable) do to the (measurement)?

What is the question you want to investigate?

_____

_____

_____

What variable are you going to change?

_____

_____

_____

What materials are you going to use?

_____

_____

_____

_____

Do you need access to electricity? **YES** **NO**

If yes, please bring an extension cord. We cannot guarantee access for everyone so plan for a back up – i.e. a fully charged battery for a laptop.

Please send this form to the Jennings Office in an envelope marked *Science Expo.*

by Friday March 6th

Preparing to Share Results: This will help organize your thinking.

What question did you ask?

_____

_____

What variable did you test and how did you test it?

_____

_____

_____

What did you find out?

_____

_____

_____

We think this happened because…

_____

_____

_____

Summary statement:
We found out that _____(our variable) affects/doesn't affect _____ because _____(restate your evidence).

_____

_____

_____

Your poster must include your question, your variables, the results and why you think the results happened and a summary statement. It may also be helpful to provide a data table and diagram of investigation. See next page for an example of this page based on Mrs. Ruppert's demonstration.

In school Mrs. Ruppert experimented with parachutes. The variable was the different materials that the parachute could be made out of.

Preparing to Share Results Example

What question did you ask?

How will the material a parachute is made out of affect the time it takes to drop 2 meters.

What variable did you test and how did you test it?

I tested different materials. I used one washer as the weight. Then, I attached a parachute to the weight. I timed how long it took to drop 2 meters. I recorded the time.

What did you find out?

I found out that

We think this happened because…

Summary statement:

I found out that the material **did effect** the parachute**. I know this because….**