

# Harmony Science Academy - SA

## Kinder- 2<sup>nd</sup> Grade 4<sup>th</sup> Annual Science Fair

This science fair packet belongs to:

---

# Table of Contents

## Pages

2. Table of Contents
3. Letter to Parents
4. So you have to do a Science Fair Project
5. Tips for Parents
6. Human Subject and Risk Assessment Information
7. Human Subject Form
8. Risk Assessment Form
9. Safety Reminders
10. Science Fair Investigation Categories and Project Requirements
11. The Scientific Method
12. Displaying a Science Fair Project
13. Project Summary Guidelines
14. Science Fair Project Resources
15. Important Dates
16. Registration Form

Dear Parents,

On behalf of all the administration, faculty and staff, I would like to welcome you and applaud you for taking time to help support and enrich your child's education. Science fairs are a long time tradition of the Harmony Public School system and are held to promote critical thinking skills, practice public speaking skills, encourage inquiry learning, build confidence and facilitate real world applications learned in the school curriculum.

While the results of the projects and experiments are important, it is not the basis of the entire grade. Students will be graded on the quality of their work as a whole and not on "getting the right answer". Additionally, students who place within the science fair will be judged based on the quality of their work, public speaking skills and aesthetics of their display board. Each grade level will be judged separately. Science teachers will not be allowed to participate in the judging event but will provide support to the judges and participants. Students must be present during the science fair to be eligible for placement and must be dressed in their regular school uniform on the day of the science fair judging. Please note that EVERY STUDENT must complete a science fair project.

While parents are an integral part of the science fair, it is important that the students do most of the work themselves. Please be sure to talk to your child's teacher if you have any questions or concerns about the project. If this is your first year at Harmony Science Academy, please join us on February 12<sup>th</sup> or 15<sup>th</sup> for more detailed information. Once again, thank you for your support and cooperation during concerning this scholastic endeavor.

Sincerely,

Jessica Moshfeghian-Prado

Science Teacher for Grades 4 & 5

# So you have to do a Science Fair Project. Here's what to do...

- 1) Think of a question or problem that interests you. For example: How fast do plants grow? How do animals eat? How does a plane fly?
- 2) Learn something about your question or problem (from teachers, parents, books, friends, the internet, etc.).
- 3) Find someone (parents, teachers, older siblings, etc.) who can help you with your project and discuss your ideas with him/her.
- 4) Make sure you return the Project Registration Form to your teacher.
- 5) Work on your project and prepare your display according to the steps described on the following pages.
- 6) Turn your display board in to your teacher on **Monday, May 13, 2013**. Make sure to include your child's name and teacher's name on the back of the display board.
- 7) On **Thursday, May 16, 2013** bring the rest of your project to school in the morning. \*Note: Objects should not be larger than 24"x 12" so that they can fit on the table in front of their display boards.
- 8) The Awards Ceremony for K-5 Science Fair Projects will be held on **Friday, May 17, 2013** at 6pm in the school gymnasium.

# Tips for Parents:

## Assisting Your Child with a Fun Project

**Selecting a project:** Keep it simple! The best project is interesting for your child, but not too complicated or difficult. The project should be done by your little scientist, with adult assistance.

**Making a display:** Most kids enjoy doing a science project at home with mom and dad. For the very little ones (K-1<sup>st</sup> grade), choose a project where the child can show what happened by drawing a picture. Use the Scientific method to organize the project. Even for older kids, a picture is worth a 1,000 words. Simple bar graphs are a great way to show information. In addition, a brief sentence or two is often sufficient to state how the child did the experiment, what happened, what they were trying to find out, etc. Even kindergarten students can copy a sentence in his or her own printing. Likewise, a parent can give their child suggestions on how to make the display look nice, and encourage the child to do neat work. A hand-lettered display made by a child, with all its quirks and imperfections, is authentic and charming. The children are so proud of things they have done themselves, and learn so much through the process.

**Materials:** Many experiments involve things that most people already have in their house, garage or kitchen. It is usually not necessary to buy a bunch of fancy materials. **All students must make a display board, you may purchase from the front office.**

# Human Subject & Risk Assessment Forms

## Human Subject Form:

This must be filled out by the child and parent completing the investigation and must be given to the person(s) involved in the investigation.

Uses include:

- Any type of questionnaire or survey
- Any type of testing on the person such as lotions, Band-Aids, food taste tests, etc.

The form will ask you to give the volunteer a Risk Assessment Form and will require a signature from the child and their parent saying it is okay for the child to participate in the investigation.

## Risk Assessment Form:

This form is for any student using liquids, food, chemicals, or surveys that involve others to be exposed to them or to be filled out. The form lists the risks a person might take if volunteering to help with the experiment.

Copies of the forms are attached.

If you have questions about these forms please let me know.

Mrs. Prado

[jprado@harmonytx.org](mailto:jprado@harmonytx.org)

# Human Subject Form

Required for all research involving human subjects, including surveys.

Student's Name: \_\_\_\_\_

Title of Project: \_\_\_\_\_

Contact Phone: \_\_\_\_\_ Email: \_\_\_\_\_

-----  
(To be completed by the Student doing the project before the survey or questionnaire is given out.)

- I have attached any surveys or questionnaires I will be using in my project.
- I have attached a copy of the Risk Assessment form.
- I have attached all the consent forms from parents or adults who participated in the survey or questionnaire.

-----  
(To be completed by the participant before they work on the project.)

Participant Name: \_\_\_\_\_

Participant Date of Birth: \_\_\_\_\_

If participant is under 18 years old parental signature is required.

- I received a copy of the risk assessment form
- I received a copy of the survey or questionnaire
- I was informed about the instructions on how to complete the survey or questionnaire

By signing below I agree to the above checked items and give my permission to the student listed above to use the information collected from the survey or questionnaire in their science project.

Participant's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

If participant is under the age of 18 a parent's signature is needed as well.

Parent's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# Risk Assessment Form

Required for projects using hazardous chemicals, activities or devices. Must be completed before the experimentation. If using food please list ingredients of the food in section 1.

Student's Name: \_\_\_\_\_

Title of Project: \_\_\_\_\_

-----  
To be completed by the Student and Parent before the experiment.

1. List/identify the hazardous chemicals, activities, devices, or microorganism that will be used.

2. Identify and assess the risks involved.

3. Describe the safety precautions and procedures that will be used to reduce the risks.

4. Describe the disposal procedures that will be used.

5. List the source(s) of safety information.

-----  
(To be completed and signed by the parent of the child participating in the project)

Parent's Printed Name \_\_\_\_\_ Signature \_\_\_\_\_

Date of Review \_\_\_\_\_ Phone Number \_\_\_\_\_ Email \_\_\_\_\_



## Safety Reminders (For Presentation Day)

1. **NO LIQUIDS/POWDERS OR DRY-ICE** other than water will be allowed at the science fair. Water must be securely contained and labeled.
2. **DO NOT** display any hazardous materials. (Use diagrams, drawing, and photographs instead.) **NO flammable, combustible, caustic, or dangerous materials allowed.**
3. **Electrical Devices** must be safe. Voltage over 12 volts (Not provided by the school) must be out of reach and protected by an overload safety device. Batteries with open top cells (wet) are not permitted.
4. **Bacterial or Fungal cultures are not permitted** (including bread mold and stinky cheese). Photos and drawings are acceptable for display only.

Make sure you have turned in all forms concerning project materials, and volunteer studies.

Displays considered unsafe will not be allowed in the Fair!!

This year we will ask that students complete the following two forms before working on their investigation if it involves using any other person in their investigation.

- Human Subject Form
- Risk Assessment Form

# Science Fair Investigation Categories and Project Requirements

## 1. Experimental Investigation

An Experimental Investigation requires students to test their hypothesis by changing one or more variables in the project.

Example: Do plants grow better when given soda or juice? You have 2 plants that are the same and the changing variable is the soda and juice.

Project Requirements:

Project/Problem: What scientific question are you attempting to answer?

Research: Learn about your question.

Hypothesis: What do you think will happen (answers the above question)?

Procedure: How will you test your problem?

Materials: What materials will you need?

Data: Show your results in a graph or display.

Conclusion: What did you learn?

## 2. Descriptive Investigation

A Descriptive Investigation involves collecting qualitative (observational data presented in summaries) and/or quantitative (statistical data presented in graphs, charts) data to answer questions about a natural or manmade system.

Example: rocks formation- how it made, animal behavior during winter, clouds-how they are formed, bicycle- why the wheels spin. There is a question but no hypothesis. Students will research their topic and show the answer to their question.

Project Requirements:

Project/Problem: What scientific question are you trying to demonstrate or model?

Research: Learn about your question.

Materials: What materials will you need?

Procedure: Write a description of what you plan to do. How will it be displayed?

Data: Show what you learned through pictures or summary.

Conclusion: What do you hope to teach others with your demonstration or model?

# The Scientific Method

Use the appropriate steps for your child's project when working on your project.

## **1. Identify the Problem or Project Topic**

Think about what area of science interests you. Narrow your focus down to a specific question.

## **2. Collect Information on your Problem or Project Topic**

Research the topic. Take notes on information that you think will be important for your project.

## **3. Develop a Hypothesis (only for Experimental and Comparative Investigations)**

A hypothesis is an educated guess about what the outcome of the experiment will be. It takes into account the research you have done and also your opinion of what you think will happen. The hypothesis answers your question.

## **4. Plan and conduct an experiment/Collect your specimens/Create your model**

First, make a plan for how you will do your experiment, collect your specimens, or create your model. Make a list of materials you may need. Keep a journal to record what you did and your observations. Photograph yourself doing your experiment, collecting your specimens, or working on your model.

### **For Experimental and Comparative Investigations only-**

Conduct your experiment and observe what happens. In your experiment, make sure you are only changing one variable at a time. This means that everything should stay the same among the tested items (conditions remain constant). The only difference (variable) would be the procedure or item being tested in that part of the experiment.

## **5. Display results**

This could be a picture, graph, or table showing your results, collection, or model. We encourage pictures of your child working on their science project.

## **6. Draw a conclusion or tell what you learned and hope people learn from your project.**

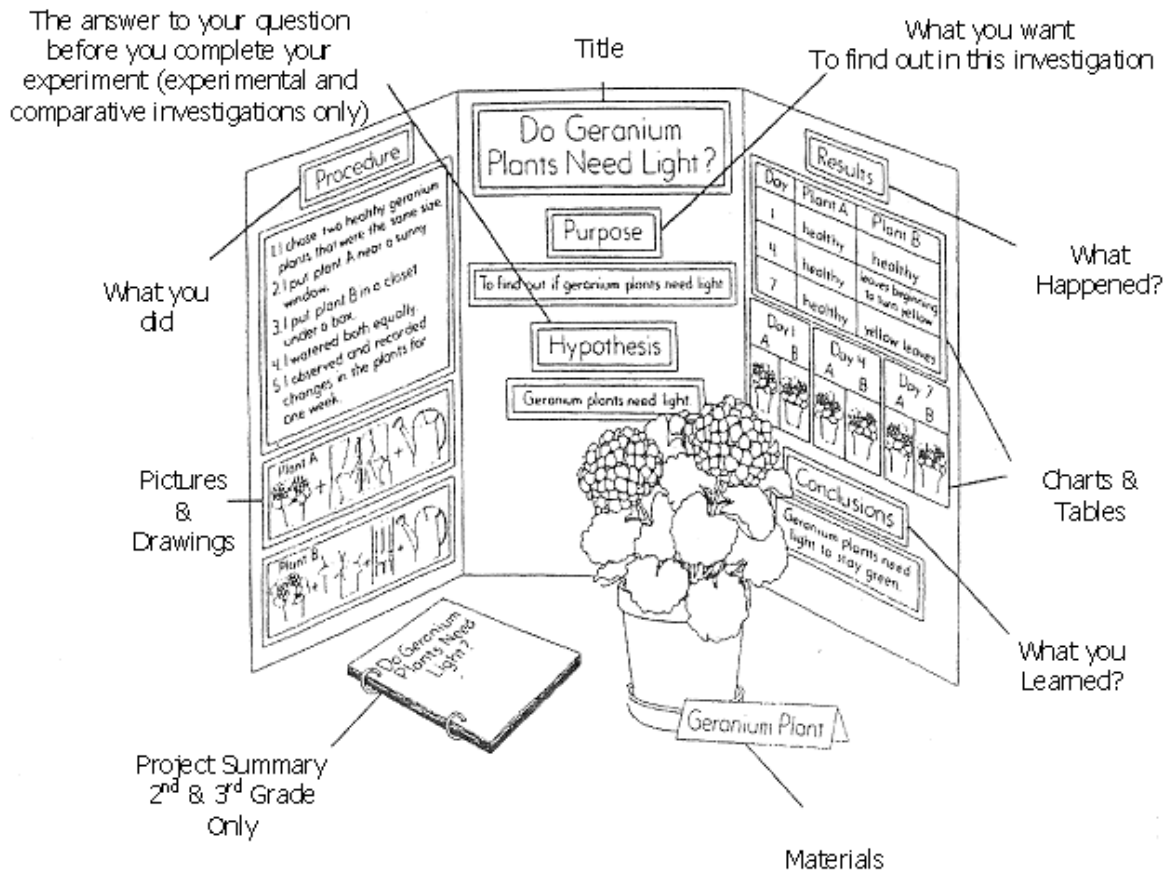
Analyze the results of your experiment. Draw a conclusion based on your results. Was your hypothesis correct? Why or why not? Your conclusion should tell what you learned by doing your project.

All Students are required to use a display board for their project.

No Posters will be accepted.

All Display boards must contain the information below. The placement of the information can vary, but all the information is necessary with the exception of the hypothesis. This is only for projects in the category of experiment. Models and Collections should tell what they want others to learn from their project.

## Displaying a Science Fair Project



## Project Summary Guidelines

Each student in 2nd grade will be required to write a project summary. This will need to be placed in a folder or project portfolio to be displayed at the time of the judging. Students may win an award for the best project summary.

### **Parts of the Project Summary**

#### **Cover Page-**

Students Name

Grade

Title of Project

#### **Purpose-**

Students must explain the purpose of their experiment

#### **Hypothesis or Questions they will be trying solve-**

Students must write their hypothesis or question they will be investigating.

#### **Procedures-**

Students will write in sequential order the steps and processes they took to complete the investigation (pictures may be included-they are optional)

#### **Results-**

Students must include their results as they relate to the Hypothesis or Question (graphs or pictures may be included- they are optional)

#### **Conclusion-**

Sum up what you learned with your investigation.

# Science Fair Project Resources

Books: Books on science experiments and science projects are available at libraries and bookstores. Here are a few good titles.

*101 Great Science Experiments: A step by step guide* By: Ardley, N.

*Science Fun: Simple Experiments and Projects* By: Nevins, D.

*Science Fairs Made Easy* Published by the Chicago Academy of Sciences

Web Sites: Science web sites for kids are available. You can use the following links or Google elementary science fair project ideas for more options

[www.scifair.org](http://www.scifair.org)

[www.lhs.berkeley.edu/kids/kidshome.html](http://www.lhs.berkeley.edu/kids/kidshome.html)

[www.nwf.org/kids/](http://www.nwf.org/kids/)

[www.enchantedlearning.com](http://www.enchantedlearning.com)

[www.seaworld.org](http://www.seaworld.org)

[www.nationalgeographic.com](http://www.nationalgeographic.com)

[www.mobot.org](http://www.mobot.org)

[www.ran.org/ran/kids\\_action/](http://www.ran.org/ran/kids_action/)

[www.bhmi.org/coolscience/](http://www.bhmi.org/coolscience/)

[www.brainpop.com](http://www.brainpop.com)

[www.madsci.org](http://www.madsci.org)

[www.sciencefair-projects.org](http://www.sciencefair-projects.org)

[www.sciencebuddies.org](http://www.sciencebuddies.org)

<http://sciencefair-project-idea.com>

[www.terimore.com](http://www.terimore.com)

[www.funsci.com](http://www.funsci.com)

[www.cool-science-projects.com](http://www.cool-science-projects.com)

[www.superiordisplayboards.com](http://www.superiordisplayboards.com)

[www.science-project.com](http://www.science-project.com)

[www.societyforscience.org](http://www.societyforscience.org)

[www.tryscience.org](http://www.tryscience.org)

<http://all-science-fair-projects.com>

<http://sciencemadesimple.com>

[www.super-science-fair-projects.com](http://www.super-science-fair-projects.com)

<http://middle-school-science-projects.com>

[www.cool-science-projects.com](http://www.cool-science-projects.com)

<http://scienceclub.org/kidproj1.html>

# Important Dates!

Please keep the following dates in mind and somewhere handy.

Packets provided to students	February 1, 2013
Science Fair Info Night for Parents	February 12, 2013
	February 15, 2013
Project Registration Forms Due	March 1, 2013
Project Summaries due to ELA teachers	April 29, 2013
Display Boards Due	May 13, 2013
Project Judging Day (Objects, Models, Samples Due)	May 16, 2013
Science Fair Award Ceremony	May 17, 2013

# Harmony Science Academy K-2 Science Fair Project Registration Form

Teacher: \_\_\_\_\_

Student Name: \_\_\_\_\_

Title of Project: \_\_\_\_\_

\_\_\_\_\_

Category: \_\_\_\_\_

(Experimental or Descriptive Investigations)

By signing this, I understand that my child is required to complete a science project and turn in the Project Registration Form by March 1, 2013. I did receive a copy of the parent/student handbook

Student Signature: \_\_\_\_\_

Parent Signature: \_\_\_\_\_

Please return this slip completed to your child's teacher by March 1, 2013.