

2015

**Findley Oaks Elementary**

**Science Fair**

**Student/Parent Handbook**

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

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

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

Dear Falcons and Parents,

This handbook includes all of the information needed to be a successful participant

in the science fair. Important dates to remember, possible “testable questions”, web links, and more will be included. You may keep this packet at home to serve as a helpful resource.

Please feel free to contact me at anytime if you have questions. I am available by email at fergusons@fultonschools.org.

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**FAQ’s**

**When is the 2015 Findley Oaks Science Fair?**

Answer: The 2015 Science Fair is will take place on May 6th. Students will set up before and interact with viewers after the PTA meeting. The projects will not be judged. All participants will receive a certificate of participation.

**What is difference between a demonstration and an experiment?**

Answer:

* **A demonstration** **is making something to “show” during the science fair.** Examples would include a model of the solar system, a reacting volcano, a phone made of string and cups, optical illusions, slime made of cornstarch and water, or sugar crystals.
* **An experiment is working through the steps of the Scientific Method.** During an experiment, students are researching and testing a question, collecting data, and drawing a conclusion based on their data.
* **Students are encouraged to conduct an experiment for our 2015 Science Fair Showcase.**
* If students are passionate about “demonstrating” something at our science fair, they will need to develop a testable question associated with their demonstration to make it an experiment.
	+ For example, if a student wanted to make a volcano, some sample testable questions to convert this demonstration an experiment could include:
		- Which white powder will create the best reaction in a homemade volcano?
		- Which liquid will create the best reaction in a homemade volcano?
	+ If a student wanted to make salt crystals, some sample testable questions to convert this demonstration into an experiment could include:
		- Does the type of salt affect the size of a salt crystal?
		- Can you make salt crystals in different liquids?
		- Does heat affect the size of a salt crystal?

**Is the Science Fair optional for my student?**

Answer: Yes. All students in grades 2 – 5 are encouraged to complete a project and present it on May 6th.

**What needs to be on my child’s Science Fair board?**

Answer: Since students will be working through the steps of the Scientific Method, they need to have a space on their board to highlight each step. The recommended board components are as follows:

* A Title 
* Testable Question
* Variables and Controls (4th and 5th grade only)
* Research
* Hypothesis
* Materials Needed
* Procedure
* Data Collection (table, charts, pictures, journal entries,
* Results
* Conclusion

**What is a testable question? What is a variable?**

Answer: A **testable question** in science is something that can be observed over time while collecting data. Every testable question has a “**variable”** that can change or *vary* during trials. It is what you are “testing”. The aspects of the experiment that are unchanged are the **“controls”.** Controls are held constant or kept the same throughout all trials. See the next page for a table of examples.



Example:

|  |  |  |
| --- | --- | --- |
| **Testable Question:** | **Variables (changing aspects):** | **Controls (aspects that are kept the same):** |
| Does the height of a ramp affect how far a ball will roll? | The heights of the ramps:* Ramp A: 3 inches
* Ramp B: 6 inches
* Ramp C: 9 inches
 | The ball, the material the ramp is made of, the starting point of the ball |
| Does the amount of sunlight affect the height of a seedling? | The amount of sunlight provided to the plant.* Environment A: In the closet (no light)
* Environment B: In the bathroom (medium sunlight)
* Environment C: On a window pane (sunlight for most of the day)
 | Seeding, amount of water provided to the plant, amount of soil, type of soil cup that the plant is grown in. |
| Which type of dog food does my dog like the best? | Type of dog food* Type A: Purina
* Type B: Fancy Feast
* Type C: Pet Smart
 | Dog, amount of food given to the dog, time of day the dog is fed. |

**Is my child’s science fair project a class grade?**

Answer: No

**Helpful Hints**

Important notes to remember while doing your project

* Student hypotheses do not have to match their results
* No not force the experiment to make a certain result! That’s cheating!
* Your results and your conclusion should be aligned.
* Data collection and multiple trials of an experiment take several weeks. Don’t wait until the last minute to get started.
* The more data you collect, the more convincing your results will be.
* Ask your parents for help!!
* Practice talking to people about your project. The more you talk about it, the more confident you will be during your presentation.

**Science Fair Boards**

|  |
| --- |
| **Your Board Should Include:** |
| * Title
* Your name and teacher
* The Testable question you plan to answer.
* The Variables and Controls in your experiment (4th and 5th grade)
* Your Research
* Hypothesis
* Materials List
* The Steps in Your Experiment/Your Procedure
* Data from your experiment (charts, tables, graphs, journals, etc.)
* Conclusion based on data
* **Be prepared to describe your project.**
* **You may add additional components if you choose.**
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