

Maria Montessori Academy 4th Annual Science Fair



Dear Parents,

We are very happy to announce that MMA will be having our third annual Science Fair on February 19, 2014. The purpose of our fair is to help upper elementary and Jr. High students develop an appreciation for the scientific process and understand that science is not just a collection or memorization of facts, but an ongoing process of discovery encompassing all areas of life. By doing a science fair project your child will experience an opportunity to see how dynamic the field of science can be and that the fun of learning is in the doing. They will also strengthen their science skills by learning how to identify problems, ask questions, conduct research on their topic, collect and analyze data, draw conclusions and communicate their findings. These are valuable life-long skills that will help your child in all aspects of their lives.

The project is **mandatory for all upper elementary children**. We have attached a time-line of required actions that will help keep your child on track. This project is designed to be done at home and we encourage your support and assistance to your child as they go through the process. Your child's teacher has been provided supplementary materials that can help guide the students with their projects and will be keeping track of their progress and deadlines. Your child will need a journal to use as their lab book (4th and 5th grade may use small spiral notebooks), the materials needed for the project of their choice and a standard size display board. Additional guidance will be provided to 6th and 7th graders who wish to compete for the Ritchey Science and Engineering Fair concerning their display board.

There is a wealth of information on the internet that your child can access for help. Although this is your child's project, they may receive guidance and assistance from you or a mentor. They may work with a partner and the partner may be a student in another class as long both children have received approval from their teachers.

Sixth and seventh graders may only partner with another sixth or seventh grader due to the fact that they will be judged using middle school criteria and may be eligible to compete at the Ritchey Engineering and Science Fair held in March of 2014.

We are looking for volunteers who would like to help out with the Science Fair. Volunteer categories include: spreadsheet development, fair coordinators, scorekeepers, student assist during set-up, fair set-up and clean-up, awards, and refreshments. If you would like to volunteer in any of those capacities, please email me at pdugan@mariamontessoriacademy.org. Make sure to include your full name, telephone, email and preferences. We will also be looking for judges; however, most of our judges will be community volunteers to avoid any conflict of interest. If you would like to be a judge, please indicate if you have experience in a particular area of science, technology or engineering. Finally, we are looking for mentors with background in specific science areas who may volunteer to mentor individual students.

One final note, please be aware that a science project is not a demonstration of a model but a testable hypothesis designed to answer a specific question or an engineering problem. We are looking forward to a fun, rewarding and exciting event!

Paula Dugan
Science Fair Coordinator



MMA SCIENCE FAIR - 19 FEBRUARY 2014

TIMELINE OF REQUIRED ACTIONS

1. **Topic Selection** (For help go to *science buddies.com* and complete the Topic Selection Wizard under student - project help – topic selection wizard) Due: Sept 30
2. **Question** (The specific question they will investigate in the science fair project) Due: Oct 11
3. **Research Plan and Bibliography** (This is a roadmap of the research that need to be answered. The Bibliography is a list of the sources that will be used to answer the research questions. 6th & 7th graders must have at least 3 offline sources including one encyclopedia) Due: Oct 25
4. **Research Paper** (The purpose of the research paper is to provide information to help understand why the experiment turns out the way it does. It should include: the history of similar experiments or inventions; definitions of all important words and concepts that describe the experiment; answers to all the background research plan questions; mathematical formulas, if needed. Some teachers may elect to make this optional for 4th and 5th grade students) Due: Nov 15
5. **Variables and Hypothesis** (An explanation of which factors will be changed while conducting the experiment and a hypothesis) Due: Nov 22
6. **Materials and Procedures** (A detailed list of the materials that will be used to conduct the experiment and detailed steps that will be followed.) Due: Dec 6
7. **Conducting the Experiment** (Students should run a minimum of 3 trials of their experiment and record results in lab book) Due: open
8. **Data Analysis and Graphs** (This is the analysis of the experimental data. A summary of the findings of the experiment). Due: Jan 31
9. **Conclusions** (An explanation of the results of the experiment). Due: Feb 1
10. **Final Report** (A report that collects all the above written assignments in one place plus a short abstract of the project). Due: Feb 10
11. **Display Board** (The final project board that will be displayed at the fair). Due: Feb 13
12. **Science Fair** (Students will bring their project to the school) Due: Feb 19