

Monday, October 3, 2011

Dear Elementary Parents,

Bay Farm Montessori Academy is once again sponsoring an all-elementary Science Fair as part of the school's extended curriculum to give students experiences in exploring beyond the classroom to understand more about the world and universe. Each student investigates a chosen science topic to discover new avenues of scientific exploration. In an effort to provide needed feedback, each student will be evaluated on an individual basis. Projects will be judged by three judges and a teacher will write an additional appraisal for each student. These will be sent home shortly after the fair. See the criteria for judging included in this packet. We need several judges to ensure that each student receives at least three written evaluations. If you, or someone you know, could judge, we would greatly appreciate it. Each student will receive a participation award.

This project is intended to be a home assignment, although teachers will be supporting your child in school with lessons about the scientific method, scientists, and experimental procedures. Encourage your child to do most, if not all, of the work. Guide your child when appropriate, but let the final project reflect individual effort, skills, and artistry. Your participation should be as guide and facilitator, as students will need assistance finding materials for the project. Projects will be set up in classrooms for exhibit and judging. A staff person will be available to assist. Bus students, please make arrangements to pick up projects after the exhibition.

A note about size of projects...Please make sure all projects can fit on a standard size classroom table. We do not have the space for oversized projects.

If you have any questions, please do not hesitate to contact us.

Dates:

Monday, October 17-Project proposal due

Friday, December 2nd- Mattakeessett and Patuxet projects due

Included in this packet:

1. Project Proposal-Due Monday, October 17
2. Safety Rules
3. Judging Criteria
4. Suggestions for Projects
5. Project Timetable
6. Judging Request Form

Please do not hesitate to contact us if you have any questions.

Sincerely,

Bay Farm Montessori_Academy Elementary I Staff

Susan Moran, Mark Benoit, Katie Byrne and Kristen Boonisar

Project Proposal

Choosing a topic for your science fair project can be one of the most important and difficult parts of the project. Be sure to choose a research topic of interest to you. Our school library has many books to help choose a topic. There are three types of projects: experimental, inventions and research. You may want to try the following website for topic ideas : www.science buddies.org.

1. Experimental Project : This type of project solves a research question with an experiment.

Examples:

- What type of laundry detergent works best?
- Do plants grow better in sunlight or in the dark?

2. Invention: Your invention should solve a problem, have a purpose, show originality and be presented in a clear, visual format.

Examples:

- Make an invention that will help solve a problem.
- Improve upon a simple everyday tool.
- Create a simple tool to solve a problem.

3. Research Project: This type of project involves researching a scientific problem or phenomenon.

Examples:

- Why do mosquito bites itch?
- What are the Northern Lights, and what causes them?
- How do computers work?

>Cut along this line, fill out, and return to your teacher.

What is you project topic? _____

Please return this to your teacher by October 17, 2011

Parent's Signature _____

6 - Week Timetable

Date of science fair _____

Date to begin project _____

Date to complete project _____

Week 1

- Choose a topic or problem to investigate
- Check resources in school or community
- Contact experts in the field in person or on the telephone
- Gather all the written material

Week 2

- Begin putting your project notebook together
- Start collections or experiment
- Begin designing display unit

Week 3

- Begin building display unit
- Design all visual aides
- Take the photographs needed
- Complete research
- Consult with experts to check your facts (Scientists, teachers, parents)
- Write report first draft

Week 4

- Continue collecting items for display
- Continue experiments
- Set up apparatus and test it

Week 5

- Write report second draft
- Construct display background
- Design and assemble graphs or charts
- Complete display lettering and mount
- Double check your written data
- Complete experiments and record data

Week 6

- Write final report
- Set up display and test
- Transport display to school; set it up; test

SAFETY RULES FOR SCIENCE FAIR PROJECTS

No explosive, highly flammable, highly corrosive, or highly poisonous materials may be brought to the fair. All chemicals must be protected to prevent hazards to spectators or other exhibitors.

No open flames, torches, or burners are allowed. Electrical heating units must be well protected and kept away from the front of the exhibit.

Projects dealing with radiation atom x-rays or radioactive materials must present no danger to the public.

Live animals must be securely caged, properly fed, watered, and cleaned. Animals may not be mistreated in the course of the project.

No live, poisonous reptiles may be exhibited.

No pathogenic cultures may be exhibited.

No hypodermic needles or syringes may be displayed.

All moving parts of powered machinery must be shielded (particularly motor driven belts and chains).

Electrical apparatus using "house current" must be safely constructed. Doorbell push buttons and open knife switches may be used with batteries but are not safe for use with house current. If you are in doubt, consult an electrician.

All wiring, switches, and components carrying "house current" must be completely enclosed to positively prevent observers from reaching into an exhibit and receiving an electric shock. Both front and back of exhibits must be enclosed. Chassis should be grounded.

Unprotected wiring is suitable for low-voltage battery-powered devices only.

Solvents used must be stored in properly labeled containers.

Mercury should not be used in science projects, unless enclosed in commercially made thermometers or barometers.

Pressure vessels must have relief valves.

Glass vacuum chambers must be enclosed in blast-proof containers.

Laser beams must be contained to protect spectators from atom affected beam and possible reflections.

Any violation of these rules or other hazardous conditions existing in the science fair should be reported immediately to the registration desk or the student's teacher.

Criteria for Judging Science Projects

SCIENTIFIC THOUGHT

- Is the project or invention clear in its purpose?
- Was the problem or question answered?
- Was there a plan behind the project?
- Does the student understand how the project relates to a scientific principal?
- Did the student research the project and collect data?

KNOWLEDGE OF SUBJECT

- How clearly does the student understand the project?
- Was the project appropriate for the student's level of understanding?
- Can the student describe the project to you or is the explanation memorized?
- Does the project correspond with the age and probable ability of the student?

ORIGINALITY

- Does the project show creative ability?
- Was the idea original?
- If experimental, does the experiment actually work?
- If illustrative, does it answer a question in some way?
- Was the student creative in the use of everyday materials?
- Was the project done under much adult direction or very little?

QUALITY OF PRESENTATION

- Was the student's knowledge accurate?
- Did the student make an observation from the project?
- Did the student do a good job on visual aides such as the drawing, printing and construction?
- Was the oral presentation logical?
- Did the student speak clearly?

THOROUGHNESS

- Did the student understand the project or problem?
- Did the student explain the project or problem?
- Did the student complete the project or problem being presented?
- Was there sufficient time spent on the project?