



Dear Parent/Guardian:

Your child has been invited to take part in a science fair, an exciting event that encourages students to think like young scientists. Over the next few months your child will be designing a science project that uses the scientific method to solve a problem. We hope that you agree that the educational benefits are numerous, as students develop skills in writing, oral presentation, creative thinking, and problem solving.

Students are judged on the quality of their work, as revealed by their written and oral presentations during our annual science fair, **to be hosted at NFA Main Campus on Saturday, February 25th**. Recognition is earned as 1st, 2nd and 3rd place, and Honorable Mention.

Student work shall be submitted this year via Google Docs. Students may access this link through the HMS website. Each student will be given instructions during meeting times for the various steps of his or her project. Most of the work will be completed at home, and students will receive due dates for each part of the project. For suggestions on helping your child through this process- from choosing a topic to the final report- see the Web site "Parents- Get Involved" at <http://discoveryschool.com/sciencefaircentral/scifairstudio/parents.html>, <http://science-fair-coach.com/getting-started/>

Or
http://sciencebuddies.com/science-fair-projects/parents_howtohelp.shtml?from=Parents

I ask that you encourage your child and monitor his or her progress along the way. Your support is key to a successful project, but please do not allow your involvement to extend any further in order to assure equity and promote student learning!

Also, our student winners who are interested will move on to compete in the **Greater Capital Region Science and Engineering Fair**. Our Heritage students experienced great success at the fair in the past and we hope to continue that trend again this year. The Fair is held each March at [Rensselaer Polytechnic Institute](#) in Troy, NY. It serves students in grades 6 - 12 who learn in Albany, Columbia, Greene, Fulton, Hamilton, Montgomery, Orange, Rensselaer, Rockland, Saratoga, Schenectady,

Schoharie, Ulster, Warren, and Washington counties. *The next Fair will be held on March 18, 2017.* Interested students will need to apply online and will work closely with Heritage faculty to further develop their projects, construct a formal research paper, and prepare for the next level of competition. Students who win at this level will be invited to partake in the SSP National Broadcom Masters Program. I have included the website here for you to review.

<http://www.capitalregionsciencefair.com>.

Please let me know if you'd like more information on creating a successful science fair project. If you have any questions, do not hesitate to contact me or your child's Science Teacher directly. I look forward to watching your child enjoy this unique opportunity for scientific discovery.

Sincerely,

Mrs. Aileen C. Finneran-Toback

Mrs. Aileen C. Finneran-Toback
HMS Lead Science Teacher
Master Teacher Fellow, Mid-Hudson
atoback@necsd.net

Save the Date

Heritage Middle School
12th Annual
Saturnelli Science Fair

Saturday February 25, 2017

9-2

Newburgh Free Academy

201 Fullerton Ave
Newburgh, NY

As an honor student at Heritage Middle School, students are required to participate in the HMS Science Fair, an exciting event that encourages students to think like young scientists. Students will be designing a science project that uses the scientific method to solve a problem.

Please join us as we recognize the achievements of our junior scientists!

Aileen Finneran-Toback
Lead Science Teacher
Master Teacher Fellow
atoback@necsd.net

RULES



HMS Science Fair Rules & Regulations

General

- Projects must represent original work done by the student(s)
- Students must provide evidence of their work. (Journals, lab notebook, data tables, etc.)
- Projects that are demonstrations, models, collections or reports are not permitted.
- A well formulated hypothesis must be clearly stated and tested by the experiment.
- Dependent and independent variables must be clearly and correctly identified in the abstract.
- There must be **at least 3 tests** of the independent variable (more would be beneficial)
- Data must be represented using graphs or charts which demonstrate that the hypothesis was tested, and the conclusions drawn are reasonable to give.
- Your exhibit must not exceed 36" H X 42" W, a standard tri-fold board.
- Your exhibit must be completely self contained and self supporting.

Safety

- All electrical equipment must be constructed according to standard electrical safety laws. Exhibits requiring electrical current for operation or illumination must be designed for operation on alternating current at 110 volts.
- All wiring, switches and metal parts must be properly grounded and out of reach of visitors.
- Dangerous chemicals in open containers, open flames, flammable liquids and explosives are strictly prohibited.
- No live animals, vertebrate or invertebrate, are to be displayed at the Fair.

NOTE: The Science Fair committee of HMS reserve the right to inspect and disqualify any exhibit that does not conform to the rules and regulations as outlined above.



What Will The Judges Ask Me?

Greet your judge – stand up, look at them, shake their hand, and say “It is nice to meet you, my name is...”

- Be able to summarize your project in 2 minutes, but also have a longer, more detailed presentation ready in case the judge doesn't have any immediate questions or time constraints.
- Highlight the creative or unexpected aspects of your project. If you encountered any problems along the way that you had to solve, describe that process – judges love the problem solving aspects because it shows you did some thinking (as opposed to just following directions from a project).
- Tell the judges what you learned in a story format.
- Understand why your project is important.
- Show enthusiasm and knowledge.
- Dress neatly, the impression you leave on a judge is critical when they then advocate for your project in the judging room. No gum chewing!
- If you don't know the answer, it is OK to say “I don't know”, but think first, is it that you don't know the answer, or don't understand the question? Don't be afraid to say “I'm not sure what you are asking, could you re-phrase it? Or “that is an interesting idea, I hadn't considered that”
- Know what you would do next (i.e., what is one logical next experiment) because it demonstrates you fully understood the scientific method and your project.
- If the judge recommends an improvement, say “Thank you” and acknowledge it as a good idea.

20 Questions you should expect include:

- Where did you get this idea?
- How did you come up with this title?
- What research did you do?
- What was your hypothesis?
- Why did you think that would happen?
- What were your independent and dependent variables?
- What was your control?
- What did you measure and how?
- How did you calculate that result?
- Why did you choose that amount, (or measurement, or piece of equipment, etc.)?
- How did you replicate the experiment?
- What does that graph tell you?
- How variable were your results and what might explain the variability?
- What did you base that conclusion on?
- Why/How are your findings important?
- Who might want to know this information?
- What would be the next experiment you would do?
- What was the hardest part (or most fun, or most exciting, or most surprising, etc.)?
- Who helped you?
- If you had to do it all over again, is there anything you would do differently?

JUDGES' RUBRIC
January 9th, 2016 Heritage Middle School

Student Name _____

Project Title _____

Criteria	4	3	2	1
Hypothesis/ Question	Thoroughly developed with "If ...then...." Relationship between the independent and dependent variables is clear and reasonable based on what has been studied	Sufficiently developed. Identifies the manipulated variable.	Partially developed. Does not identify the manipulated variable.	Major flaws.
Procedures/ Organization	Easy to follow sequence of the Scientific Method. * Language is clear and correct.	Easy to follow sequence of the Scientific Method. Some language errors.	Somewhat difficult to follow because of lapses of the sequence of the Scientific Method.	Difficult to follow; no sequence of the Scientific Method.
Investigation Trials	Process was performed at least 3 times.	Process was performed <3 times.	Process was performed <2 times.	Process was performed once.
Analysis	Data is clearly presented and directly relates to hypothesis/question. Mean, median & mode are included when relevant.	Data is reasonably presented and shows good relationship to hypothesis/question.	Data is minimally presented and shows some relationship to hypothesis/question.	Data is not presented and no relationship to hypothesis/question is evident.
Evaluation/ Conclusion	A logical conclusion has been drawn from the data collected, and answers the hypothesis/question and/or raises a new hypothesis/question.	A logical conclusion has been drawn from the data collected.	A fairly reasonable conclusion has been drawn from the data collected.	The conclusion drawn is not shown to relate to the data collected.
Suggestions for Improvement/ Continued Research	Experimental errors, their possible effects, and ways to reduce errors are discussed. Three additional variables have been stated that may have influenced outcome.	Experimental errors and their possible effects are discussed. Two additional variables have been stated that may have influenced outcome	Experimental errors are mentioned. One additional variables have been stated that may have influenced outcome	There is no discussion of errors.
Presentation (Overall Impression)				

*Scientific Method: Clearly stated problem, hypothesis, controlled experiment, valid analysis, conclusion

SCORE _____