



# { SCIENCE } SYMPOSIUM

All first year Boys' Latin students in *Biology and Chemistry I* are required to design and conduct an **independent science investigation**. To complete the independent project, each student should select a research question, design an experiment to test the question, and conduct the experiment to gather and analyze data.

An independent science investigation allows students to:

1. develop a deeper understanding of the scientific inquiry process
2. explore problems and problem-solving strategies
3. reinforce math skills by collecting, analyzing, and representing data
4. strengthen reading and writing skills by completing a research paper
5. improve time management and organizational skills

## **Final Project Format**

All students will submit a (1) formal research report and (2) slideshow presentation. Additionally, students may create a poster to share at the Science Symposium. Each student will work on the project in parts—not all at one time. Each portion of the project has a separate due date and grade. (See next page.) Research and data collection will be completed outside of class. However, students will receive instruction about scientific methods in class. If a student completes each part of the project according to the deadlines, he will simply piece together the parts to create a final project.

## **Science Symposium**

The findings of each student's independent science investigation will be presented at a Science Symposium on Wednesday, December 18, 2013. Participation in the Science Symposium will provide students with the opportunity to share research with peers and community members. Families and community members are invited to attend to learn about students' research projects.

## **Local and Regional Science Fairs**

Students may also choose to present their research at local and regional fairs:

- Pennsylvania Junior Academy of Science Region 1C Fair at Bensalem HS in **February**
- George Washington Carver Science Fair at Temple University in **March**
- Delaware Valley Science Fair at the Greater Philadelphia Expo Center in **April**
- Pennsylvania Junior Academy of Science State Fair at Penn State University in **May**

Participation in the science fairs is optional. Students may earn scholarships and awards for their projects. Students must register by December and should contact Mr. Smith.

## **Family Workshops**

Family members along with students are invited to attend a workshop to learn tips for completing the projects. Two workshop sessions will be held in the Boys' Latin computer lab on Tuesday, September 24 (from 4:30 to 5:30) and on Wednesday, September 25 (from 5:00 to 6:00).

The following parts of the investigation will be due in class to the student's science teacher:

September 23	Testable question
September 30	Introduction <ul style="list-style-type: none"> <li>• purpose</li> <li>• hypothesis</li> <li>• independent variable</li> <li>• dependent variable</li> <li>• controlled variables</li> </ul>
October 15	Background research <ul style="list-style-type: none"> <li>• project title</li> <li>• 5 paragraphs of key ideas and background information (minimum)</li> <li>• bibliography (5 sources)</li> </ul>
October 28	Experimental design <ul style="list-style-type: none"> <li>• procedure</li> <li>• materials list</li> </ul>
November 15	Preliminary research results <ul style="list-style-type: none"> <li>• journal entries</li> <li>• photos of experiment in progress</li> <li>• qualitative/quantitative observation notes</li> <li>• data/measurements in a table</li> </ul>
December 2	Data tables and diagrams (data must be collected) <ul style="list-style-type: none"> <li>• at least one table with data</li> <li>• digital/computerized diagram of setup</li> <li>• at least one graph of data</li> </ul>
December 9	Draft of written report due <ul style="list-style-type: none"> <li>• abstract</li> <li>• conclusion</li> <li>• implications</li> <li>• acknowledgements</li> </ul>
December 16	Final draft of written report Completed slideshow presentation

### Questions?

Contact your son's science teacher about the project if you have questions. To volunteer to help with the Science Symposium or have general questions, contact Trey Smith (Chair, Science Department) at [jsmith@boyslatin.org](mailto:jsmith@boyslatin.org).

