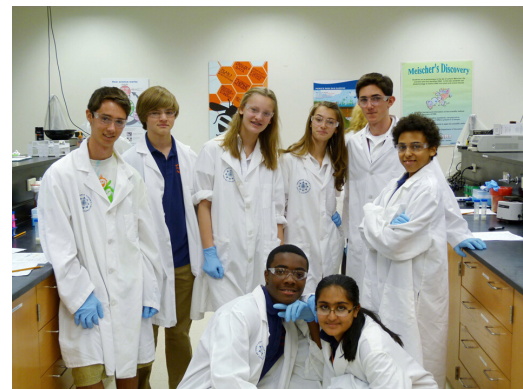




Research Practicum

a 3-year sequential in-school and off-site research curriculum for 10th-12th grade Ingenuity students

Goal: Students gain hands-on experience in Biology, Chemistry, Engineering, Environmental, and/or Plant Sciences and submit to at least two regional and/or national competitions.



Student Responsibilities

- **Sophomore Year & Following Summer:**
 - Enroll in Introduction to Scientific Research, identify research interests, identify mentors, and undergo training at research placements.
 - 120 hours over the summer.
- **Junior Year & Following Summer:**
 - Work with professional mentors in scientific fields to develop independent research projects.
 - Minimum 8 hrs. per week during school year, 120 hours over the summer.
- **Senior Year:**
 - Continue lab work.
 - Prepare and submit research papers to national competitions.
 - If appropriate, work with mentors towards publication of results.
 - Time required for courseload.

Current Partners

- Johns Hopkins University
 - Environmental Health and Engineering
 - Human Language and Technology Center
 - Physics & Astronomy
 - Earth & Planetary Sciences
 - Biology
 - Biochemistry and Molecular Biology
- University of MD School of Medicine
- Space Telescope Science Institute

Mentor Role

- Provide direct oversight and feedback at research site.
- Read drafts of papers and presentations.
- Assign relevant readings.
- Provide guidance to improve assignments.
- Complete paperwork for competitions.

Competitions & Publications

Students enter science competitions including the Junior Science and Humanities Symposia (JSHS), the Baltimore Science Fair, and the Regeneron Science Talent Search, the nation's most prestigious STEM competition. In Ingenuity's history, 11 students have been named Regeneron semifinalists and three students were winners, most recently in 2018.

More than 20 students have co-authored papers in peer-reviewed journals including:

Analytical Biochemistry
Bipolar Disorders
Fractals
Frontiers in Integrative Neuroscience
Genetics
Nature

