SCIENCE, MATHEMATICS AND COMPUTER SCIENCE MAGNET PROGRAM

Montgomery Blair High School
APPLICATION TIMELINE

• November 7: Applications Due
• December 6: Testing
  – December 7: Special Needs/Make-Up Testing
  – December 10: Make-Up Testing
  – Snow Dates one week later
• December 12: Teacher Recs Due (provide to teachers one month earlier)
• Early February: Notification Letters Mailed
MAGNET VS. HONORS/AP

- Interdisciplinary instruction
- Advanced coursework beyond Honors/AP
- Expectation of going beyond requirements
- Depth vs. Breadth
- Independent Research
COURSES

• Mathematics
• Science
• Computer Science
• Interdisciplinary (Research and Engineering)
• Non-magnet Courses
  – Social Studies
  – English/Reading
  – Physical Education
  – Electives
MATHEMATICS: REQUIRED COURSES

- Magnet Geometry A/B
- Precalculus A/B/C
- Analysis 1 A/B
- Electives

- Precalculus A/B/C
- Analysis 1 A/B
- Analysis 2 A/B and/or Electives
- Electives

- Functions A/B
- Analysis 1 A/B
- Analysis 2 A/B and/or Electives
- Electives
MATHEMATICS: ELECTIVE COURSES

- Analysis 2 (Multivariable Calculus)
- Linear Algebra
- Advanced Geometry
- Applied Statistics
- Modeling and Simulation
- Discrete Mathematics
- Complex Analysis
- Logic
- Sports Statistics
SCIENCE: REQUIRED COURSES AND ELECTIVES

Advanced Science 1: Physics
Advanced Science 2: Chemistry
Advanced Science 3: Earth Space Systems
Advanced Science 4: Biology

Plate Tectonics / Oceanography
Astronomy
Cellular Physiology
Optics
Thermodynamics
Quantum Physics
Analytical Chemistry
Introduction to Physical Chemistry
Genetics
Marine Biology
Biological Chemistry
Organic Chemistry
Entomology
COMPUTER SCIENCE: REQUIRED COURSES AND ELECTIVES

Analysis of Algorithms

Computer Graphics

Software Design

Modeling and Simulation

AI / LISP

3-D Computer Graphics

Computational Methods
INTERDISCIPLINARY: REQUIRED COURSES AND ELECTIVES

- Research and Experimentation 1 A/B
- Principles of Engineering A (Grade 10)
- Principles of Engineering B (Grade 11)
- Senior Research Project
- Robotics
- Material Science
- Origins of Science
MAGNET SCHEDULE

• 8 Classes – 3:00 dismissal
• 5 Classes per day
• Core courses blocked in 9th grade
• Extracurricular activities
• Afternoon buses at 3:00 (M-F) and 4:25 (T-Th)
STUDENT SUPPORT

• Academic Peers
• Study Hall
• Lunch Support
• Counseling & Career Center
• Academic Support
• College Admissions
<table>
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<tr>
<th>EXTRACURRICULAR ACTIVITIES</th>
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<td>AALEAD</td>
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<td>Africa Club</td>
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<td>African American Culture</td>
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<td>Art Club</td>
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<td>Badminton Club</td>
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<td>Blair Ambassadors</td>
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<td>Blair Network Communications</td>
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<td>Blazer Choir</td>
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<td>Comedy Sketch Club</td>
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<td>Fashion Club</td>
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<td>Flag Squad</td>
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<td>Forensics/Speech Club</td>
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<td>Hip-Hop Club</td>
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<td>I Care</td>
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<td>Indian Club</td>
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<td>International Cancer Alliance</td>
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<td>Italian Club</td>
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<td>Japanese Club</td>
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<td>Jewish Culture Club</td>
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<td>Key Club</td>
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<td>Korean Club</td>
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<td>Learn a Language Club</td>
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<td>Logic Club</td>
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<td>Marching Band</td>
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<td>Martial Arts Club</td>
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<td>Math Team</td>
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<td>Mentor Programs</td>
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<td>Montgomery Blair Players</td>
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<td>Muslim Student Association</td>
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<td>National Arts Honor Society</td>
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<td>Ocean Science Bowl</td>
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<td>Peer Tutors</td>
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<td>Philosophy Club</td>
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<td>Photography Club</td>
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<td>Physics Team</td>
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<td>Pit Orchestra</td>
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<td>Psychology Club</td>
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<td>Rebuilding Together</td>
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<td>Red Cross Club</td>
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<td>Robotics Team</td>
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<td>Safety Committee</td>
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<td>Science Bowl</td>
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<td>Science Honor Society</td>
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<td>Shakespeare Club</td>
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<td>Smart Snacks Club</td>
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<td>Stage Crew</td>
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<td>Theater Productions</td>
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<td>Thespians Club</td>
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<td>Tri-M</td>
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<td>Vietnamese Club</td>
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<td>Web Design Club</td>
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<td>WEB Dubois Honor Society</td>
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<td>Weight Training Club</td>
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<td>Women's Advocacy</td>
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<td>Yearbook</td>
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<td>Youth and Government</td>
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APPLICATION

• Due November 7
• Application Packet
• Section 1: Biographical Information
• Section 2: Student Activities
• Section 3: Signature
• Section 4: Student Essay
• Teacher Recommendations
TESTING

• December 6, 8:00-11:00 (Snow Date December 13)
• Mathematics
• Reading Comprehension
• Writing
SPECIAL NEEDS OR MAKE-UP TESTING

- Special Needs Testing December 7, 8:00 – 11:00 @ Richard Montgomery HS (Snow date December 14)
- Special Needs Documentation
- Make-Up Testing: December 10 (Snow date December 17)
ELIGIBILITY

- Must be a current 8th grade student
- Must complete Algebra 1 by the end of grade 8
- Must reside in Montgomery County within one of the following clusters at time of application:
  - DCC
  - NEC
  - BCC
  - Churchill
  - Walter Johnson
  - Richard Montgomery
  - Rockville
  - Sherwood
  - Whitman
  - Wootton
SELECTION PROCESS

- Student Information
- Selection Committee
- Decision Letters
- Appeals
STUDENT POPULATION

• About 100 students per grade level
• Students from over 30 middle schools
• Students from about 15 different countries
RECENT ACCOMPLISHMENTS

• Excellence in Gifted & Talented Education Award, Maryland Department of Education
• Twenty-Eight 2014-15 National Merit Scholarship Semifinalists
• 2012 & 2014 Davidson Fellowship Winners
• 2014 ISEF 1st Award Medical & Health Sciences, 4th Award Behavioral Sciences, United Technologies Corporate Award
• 2014 DC Regional Junior Science and Humanities Symposium Second Place
• Two 2013 Grand Prize Winners Montgomery Area Science Fair
• Nine 2014 Intel Semi-finalists (Three Finalists)
• Four 2013 Siemens Competition Semi-finalists
• 2011 & 2013 American Computer Science League Senior Division First Place
• 2011, 2013 & 2014 Silver Medalists, International Physics Olympiad
• 2012 & 2013 Top Ten finish at American Regions Mathematics League
• 2013 Sixth Place Moody’s Mega Math Modeling Challenge
• Alumni selected as 2009 and 2014 MacArthur Fellows
• Students competing at the national & international level in swimming, fencing, skating, wushu, skiing, chess, …
BLAIR...THEN WHERE?
CLASS OF 2014 COLLEGE ACCEPTANCES

- University of Alabama
- University of Alabama-Birmingham
- Allegheny College
- American University
- Amherst College
- Auburn University
- Becker College
- Boston University
- Brown University
- UC Berkeley
- UCLA
- UC San Diego
- UC Santa Barbara
- Cal Poly
- Cal Tech
- Carnegie Mellon
- Case Western Reserve
- Catholic University
- Champlain College
- University of Chicago
- Clarkson University
- University of Colorado
- Colombia University
- Cornell University
- Dartmouth University
- University of Delaware
- University of Denver
- Drexel University
- Duke University
- Emory University
- Franklin & Marshall College
- Georgia Tech
- Goucher College
- Grinnell College
- Hampshire College
- Harvard University
- Harvey Mudd College
- Haverford College
- Howard University
- University of Illinois
- Johns Hopkins University
- Juniata College
- University of Kentucky
- Lewis & Clark College
- Loyola Marymount
- UMBC
- UMD College Park
- UMASS
- MIT
- McGill University
- University of Miami
- University of Michigan
- University of Minnesota
- Morehouse College
- New College of FL
- New York University
- UNC Chapel Hill
- North Carolina State
- Oberlin College
- Ohio State
- University of Pennsylvania
- Penn State
- University of Pittsburgh
- Pomona College
- Princeton University
- Purdue University
- Reed College
- Rensselaer Polytechnic
- Rice University
- University of Rochester
- Rochester Institute of Technology
- Rose-Hulman Institute of Technology
- Rutgers University
- St. Mary’s College of MD
- Skidmore College
- Southern Methodist University
- Stanford University
- University of Southern California
- Swarthmore College
- University of Texas
- University of Texas - Dallas
- Vanderbilt University
- University of Vermont
- University of Virginia
- Virginia Tech
- Wake Forest University
- University of Washington
- Washington University in St. Louis
- George Washington University
- Western New England University
- College of William & Mary
- University of Wisconsin
- Worcester Polytechnic
- Yale University
- York College
DOES YOUR CHILD...

... not only know the answers, but asks the questions?
DOES YOUR CHILD...

... have not just good ideas, but wild and silly ones?
DOES YOUR CHILD...

... answer questions with detail and elaboration?
DOES YOUR CHILD...

... construct abstractions and draw inferences?
DOES YOUR CHILD...

... initiate projects and create new designs?
DOES YOUR CHILD...

... critique himself or herself?
CONTACT INFORMATION

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