

Math Acceleration

- **Throws off balance of class sizes and of teams**
 - 2019-2020: 13 in geometry, algebra classes of 30, math 8 classes of 22
 - 2020-2021: 9 in geometry, algebra classes of 30, math 8 classes of 23
 - There has not been a year in recent history in which a geometry class exceeded 20.
 - Large algebra and especially math 8 classes prevent us from effectively serving all students, especially those on IEPs, METCO, high needs, etc.
 - Inequities present in all core classes because students tend to travel in pods to some extent.
 - Large other classes during geometry block
 - Unbalanced (skill wise) classes in other core classes
 - Geometry creates a “smart team”

- **Developmental concerns of geometry students**
 - Extra stress/pressure
 - Talking with students, their families are putting TONS of stress on them to excel in every way possible
 - Students report disliking math, but being pressured to get ahead
 - Some students are on 504s to manage anxiety because of math
 - Fear of being wrong out of fear of looking dumb
 - Creates an environment where students are afraid to take academic risks
 - Not building resilience
 - Distancing from age-level peers
 - Hyper-focused on math limits other activities/age-appropriate socializing
 - At the high school, classes will be mixed and the students who test out will be in classes with students in other grades (isolation)
 - Superiority complex
 - Attitude toward other students
 - Lack of effort/skill development in other classes because being “ahead” in math makes them feel they are strong across the board.
 - Negatively impacts growth mindset
 - Lack of rigorous understanding
 - Many enter the course with a strong procedural understanding, but are unable to explain the reasoning behind it.
 - Our math courses also focus on problem solving, collaboration, effective communication, etc. Even students with strong math backgrounds can grow in these areas, which are critical for middle school students.
 - Our math courses are rigorous and we can’t comment on the quality of other experiences. Disservice to students if we don’t build up their fundamental math understanding.

- Developmental concerns of other students
 - “I’m in the dumbest of 3 classes and I’m still struggling”
 - Fear of coming to extra help/talking to math teachers because geometry students are there and are intimidating.
 - Imbalance of classes/teams hurts academic development
 - Math acceleration creates a culture of “needing” to get ahead
 - Belmont is very academically competitive
 - Students will cram for the placement test in order to skip, but not have the skills or a meaningful understanding
 - Students have asked “what do I need to do to get into geometry” because of the pressures

- Equity
 - While the ideal of an accelerated course being offered by a public school sounds equitable to create opportunity for all, the exact opposite is true.
 - Enrolling in outside math courses is what is allowing students to accelerate
 - 2019-2020: All but 1 geometry student was enrolled in RSM, the 1 outlier moved here from Ohio in eighth grade and their curriculum is different
 - If we open up geometry to more students, many will need outside tutoring in order to earn the grades they want/are used to
 - Acceleration creates additional pressure to enroll in outside programs in order to get ahead
 - Widen achievement gap

- Other thoughts
 - There are other opportunities to accelerate
 - Doubling up at BHS
 - Students in math 7 compact still take Calculus as a senior
 - There are enrichment opportunities already at Chenery
 - We incorporate challenge problems/extensions regularly into algebra
 - Special functions unit
 - Upper & lower school math teams
 - AMC
 - “Challenge” can come from things other than math content.
 - Skill development
 - Leadership roles in class

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- Other options to consider (if it's determined the acceleration program be reinstated - we will stand by our thoughts above)
  - Algebra (for grade 7) and geometry (for grade 8) be taught by a math specialist or by the math director
    - Fee to take the course to make it budget neutral? (with waivers available for families who can't afford it)
    - Not on team, these students can be spread across the 3 teams
  - Wait 2 years until we are at the high school and these students can take geometry in the building with a high school teacher
  - Additional requirements to accelerate
    - Teacher recommendation and/or "interview" with math director
      - Students need to express WHY they want to accelerate
    - "Explain your reasoning" questions on the placement test
      - Filters out students with only procedural mastery
      - Discredits cramming for the placement test