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# Challenger Geometry Program

— March 23, 2022 —

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# Agenda

- Middle and High School Math Pathways
- Review of Challenger Geometry, year 1
  - What it is
  - Who enrolled
  - How it went
- Areas for Growth for 2022-23
- Increasing Access to Advanced Learning in Math, K-12

# Middle/High School Math Pathway 1

7th Grade	8th Grade	9th Grade
<ul style="list-style-type: none"><li>● 7th grade math standards</li></ul>	<ul style="list-style-type: none"><li>● 8th grade math standards</li></ul>	<ul style="list-style-type: none"><li>● Algebra 1</li></ul>

# Middle/High School Math Pathway 2

7th Grade Compacted	8th Grade Algebra 1	9th Grade
<ul style="list-style-type: none"><li>● All of 7th grade math standards</li><li>● Half of 8th grade math standards</li></ul>	<ul style="list-style-type: none"><li>● Half of 8th grade math standards</li><li>● All of Algebra 1 math standards</li></ul>	<ul style="list-style-type: none"><li>● Geometry College Prep or Honors</li></ul>

# Middle/High School Math Pathway 3

7th Grade Compacted	8th Grade Algebra 1	9th Grade
<ul style="list-style-type: none"><li>● All of 7th grade math standards</li><li>● Half of 8th grade math standards</li></ul>	<ul style="list-style-type: none"><li>● Half of 8th grade math standards</li><li>● All of Algebra 1 math standards</li></ul>	<ul style="list-style-type: none"><li>● Algebra 2 College Prep, Honors 1, or Honors 2</li></ul>
	<ul style="list-style-type: none"><li>● Challenger Geometry</li></ul>	

# How Challenger Geometry Changes the High School Math Pathways

For students  
who do not take  
Challenger  
Geometry

9th	10th	11th	12th
Geometry Honors/CP	Algebra 2 H1/H2/CP	Precalc H1/H2/CP	AP Calc (AB or BC)
Algebra 1 CP	Geometry Honors/CP	AP Stats	Honors Calc
		Honors Stats	AP Stats
		Algebra 2 H1/H2/CP	Honors Stats
			AP Comp Sci
			Electives

For students  
who complete  
Challenger  
Geometry

9th	10th	11th	12th
Algebra 2 H1/H2/CP	Precalc H1/H2/CP	AP Calc (AB or BC)	AP Calc (AB or BC)
	AP Stats	Honors Calc	Honors Calc
	Honors Stats	AP Stats	AP Stats
	AP Comp Sci	Honors Stats	Honors Stats
		AP Comp Sci	AP Comp Sci
			Electives

# 2021-22 Challenger Geometry Program

- Included 8th and 9th graders
  - 9th graders were for this year only
- Started with summer work through Khan Academy
- Online course work through Edgenuity and weekly Google Meets with an assigned BPS educator
  - Weekly sessions were offered on Mondays, Wednesdays, and Fridays. Students and families selected the day based on their schedules
  - Flexibility was offered for conflicts and changing schedules.
  - 90 minute sessions included 30 minutes of office hours/student support built in

# Who registered for the program, May 2021

- 223 students registered
  - 150 Grade 8 students
  - 73 Grade 9 students
- We are excited to welcome all these students to the program - they didn't need to pass a test to participate



# Program Implementation: Supporting Student Success

- Challenger Geo “Back to School Night” in the fall
- Extra support time is built into weekly online sessions
- Regular email communication to students and families regarding student progress
- Regular progress reports
- Supplemental problem sets provided to students seeking extra practice
- Adjustments made to practice based on student feedback

# Update on Program Enrollment, March 2022

Of the 223 students who registered for the program last May, 23 students have exited the program (as of 3/14/22).

These include:

- 16 students currently in Grade 8
  - They will take geometry next year at BHS
- 7 students currently in Grade 9
  - Some switched to geometry this year; some will take it next year
- Also, 8 students in Grade 9 stayed in Challenger Geometry and moved to “honors 2” level of Algebra 2

# Program Successes

- We opened up the program to anyone in Algebra 1 who wanted to participate by removing the test requirement.
- Increased participation significantly.
- 90% of students enrolled in the program are on track to successfully complete Geometry and their during the day math class (either Algebra 1 or Algebra 2).
- Student feedback overall is positive.

# Areas for Growth

- It's hard to replicate what we do in a typical Honors Geometry class using the Edgenuity course & learning platform
- Edgenuity is difficult to schedule around - especially with our program schedule of students meeting once a week.
- How we assess students needs to be changed if we want to better align with Honors Geometry.
- We need to identify ways to better support 9th graders taking Algebra 2 as their first math course at Belmont High School.

# Next Steps/Changes for Challenger Geometry 2022-23

- Consider replacing Edgenuity with our own online content to better align with our current Honors Geometry curriculum.
- Adjust the summer work to target skills that would better prepare students for success in the Challenger program.

**Information Session for parents/guardians & registration for 2022-23 coming in May.**

# Improving Access to Advanced Learning in Math, K-12

## Effective for the 2022-23 school year, we will:

- Pilot an option for students & their parent/guardian to enroll in a high school math course different from the traditional pathways.
  - This is for students who have mastered the standards of a math course.
  - The student and parent will sign a form attesting to their mastery.
  - We will register them for the math course they select.
  - Students can select from courses we offer or apply for independent study to satisfy the graduation requirement of 4 years of math.
  - Process and forms will be distributed to families of all rising 9th through 12th graders by **March 30**.

# Improving Access to Advanced Learning in Math, K-12

- **By May 2022** we will establish a math working group to conduct a literature review, collect data on current program, review other districts' programs.
- The working group will include
  - Building-based and math administrators
  - Math educators
  - Parents and/or community members
    - Two from the math parents group
    - Two who represent special education
    - Two who represent diversity
- The group will meet from May through November 2022 and will bring short-term and long-term recommendations to the School Committee in December 2022.

# Improving Access to Advanced Learning in Math, K-12

## **During the 2022-23 school year, we will:**

- Create a program for 7th grade students in Math 7 who are interested in transitioning to Algebra 1 in Grade 8.
- This will create a bridge for any student to access to the Challenger Program.
- The program will be developed during the school year and implemented by summer 2023 for students completing 7th grade in 2022-23.



# Improving Access to Advanced Learning in Math, K-12

**During the 2022-23 school year, we need to:**

- Include funding in the FY24 Budget to maintain the two elementary math specialists hired with ESSER funds.
- Include funding in the FY24 Budget to hire two more elementary math specialists.
- Maintain funding for middle school math specialist (if included in FY23 Budget).

# Appendix

More detailed high school math pathways are on slides 14-17.

# High School Pathway 1

Grade 9	Grade 10	Grade 11	Grade 12
Algebra 1 (30-35% of students)	Geometry CP	Algebra 2 CP	PreCalculus CP
			Math Electives CP
		Algebra 2 H2	PreCalculus H2
			PreCalculus CP
	Geometry CP Algebra 2 H2	PreCalculus H2	Calculus H
			AP Statistics
			Math Electives CP or H
	Geometry H	Algebra 2 H2	PreCalculus H2
			Math Electives CP or H
		Algebra 2 H1	PreCalculus H1
			PreCalculus H2

# High School Pathway 2

Grade 9	Grade 10	Grade 11	Grade 12
Geometry CP (20-30% of students)	Algebra 2 H2	PreCalculus H2	Calculus H
			Math Electives CP or H
			AP Statistics
	Algebra 2 CP	PreCalculus CP	Math Electives CP or H
		PreCalculus CP	Math Electives CP or H

# High School Pathway 3

Grade 9	Grade 10	Grade 11	Grade 12
Geometry H (40-45% of students)	Algebra 2 H2	PreCalculus H2	Calculus H
			AP Statistics
			Math Electives CP or H
		PreCalculus CP	Math Electives CP or H
	Algebra 2 H1	PreCalculus H1	AP Calculus AB or BC
			AP Statistics
			Calculus H
		PreCalculus H2	Calculus H
			AP Statistics
			Math Electives CP or H

# High School Pathway 4

*For students who complete Challenger Geometry in Gr. 8*

Grade 9	Grade 10	Grade 11	Grade 12
Algebra 2 H2	PreCalculus H2	Calculus H	AP Calculus or AP Stats (if not taken in 11th grade)
		AP Statistics	
		Math Electives CP or H	
	PreCalculus CP	Math Electives CP or H	
Algebra 2 H1	PreCalculus H1	AP Calculus AB or BC	Math Electives
		AP Statistics	
		Calculus H	
	PreCalculus H2	Calculus H	
		AP Statistics	
		Math Electives CP or H	

From the 2022-23 BHS Program of Studies, page 20