

Math Enrichment Program Review and Recommendations

November 12, 2024
Board of Education



What's our big idea?





Meet the Team

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Current Key Math Initiatives at D97

	Acceleration (State-Mandated)
Purpose	To accelerate passed your age appropriate grade level in any subject per 2019 Illinois Accelerated Placement Act
Who can participate	This pathway is open to all students in the district
How can students participate	Students, teachers, or families can apply for acceleration during hte Window (March 1 - April 25)

Current Key Math Initiatives at D97

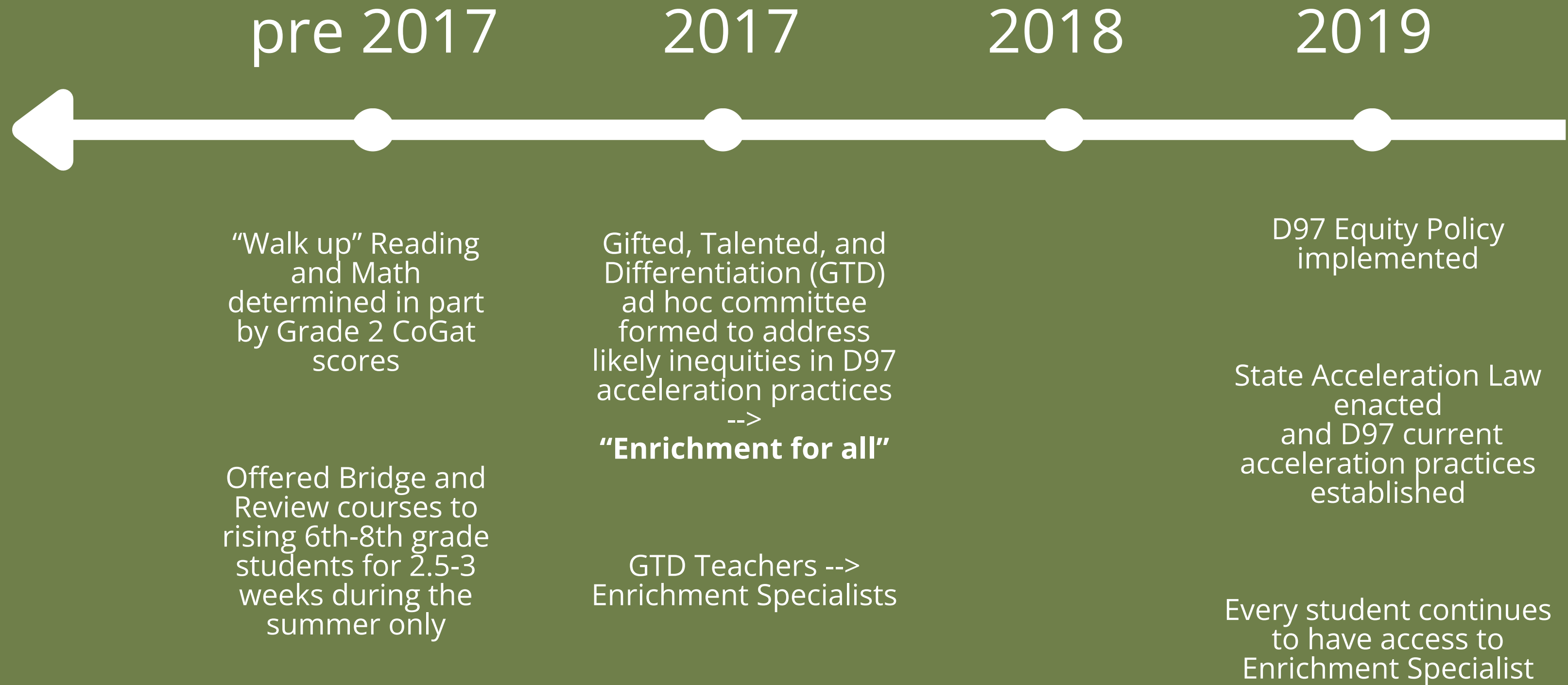
	Acceleration (State-Mandated)	Access to Algebra (D97 Equity Policy 7-12.A)
Purpose	To accelerate passed your age appropriate grade level in any subject per 2019 Illinois Accelerated Placement Act	Provide students with access to Algebra before high school especially for students of color and female students in alignment with the D97 Equity Policy
Who can participate	This pathway is open to all students in the district	All 5th -7th grades that are not already accelerated in mathematics
How can students participate	Students, teachers, or families can apply for acceleration during hte Window (March 1 - April 25)	Students can enroll in either or both of the pathways: Bridge course or MAP

formerly: “Math Enrichment:
Advancement”

Current Key Math Initiatives at D97

	Acceleration (State-Mandated)	Access to Algebra (D97 Equity Policy 7-12.A)	Math Review (D97 Equity Policy 7-12.A)
Purpose	To accelerate passed your age appropriate grade level in any subject per 2019 Illinois Accelerated Placement Act	Provide students with access to Algebra before high school especially for students of color and female students in alignment with the D97 Equity Policy	To provide students with a review of math standards that they learned throughout the current school year.
Who can participate	This pathway is open to all students in the district	All 5th -7th grades that are not already accelerated in mathematics	All 5th - 7th grade students
How can students participate	Students, teachers, or families can apply for acceleration during the Window (March 1 - April 25)	Students can enroll in either or both of the pathways: Bridge course or MAP	Students sign up when summer programming is announced
		formerly: “Math Enrichment: Advancement”	formerly: “Math Enrichment: Review”

Timeline of Key Math Initiatives at D97



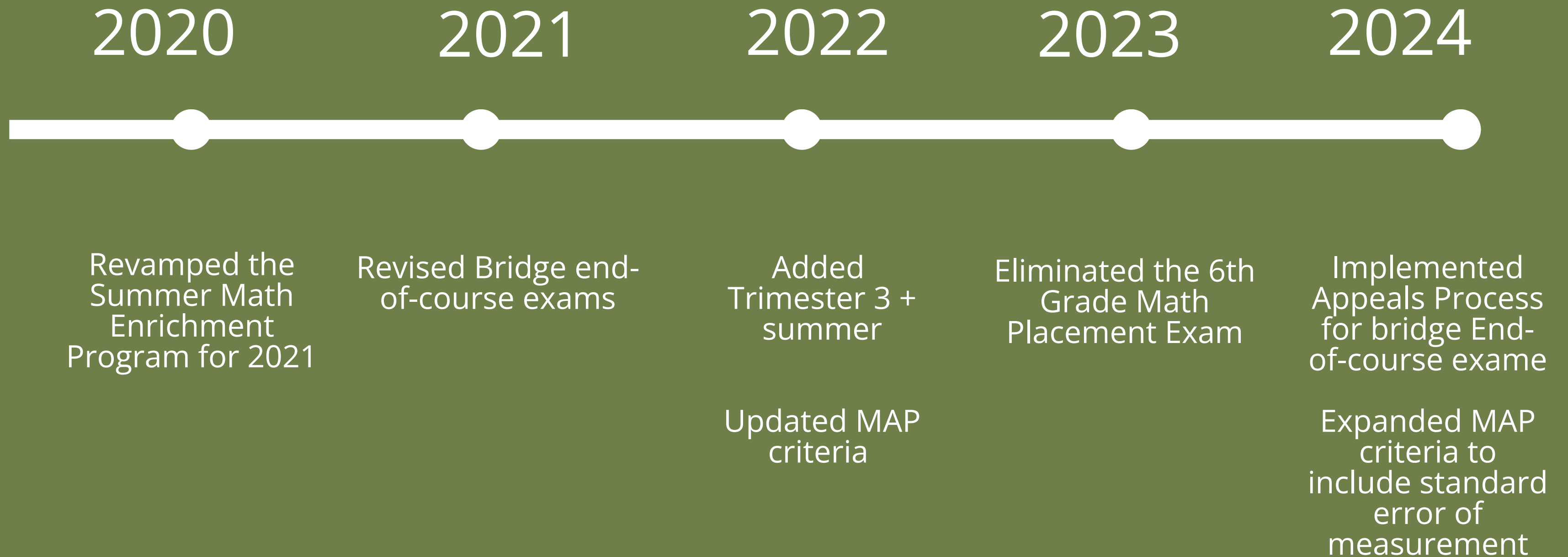
What We've Heard

D97 staff concerns about subsequent math course performance and students need to engaging in math experience

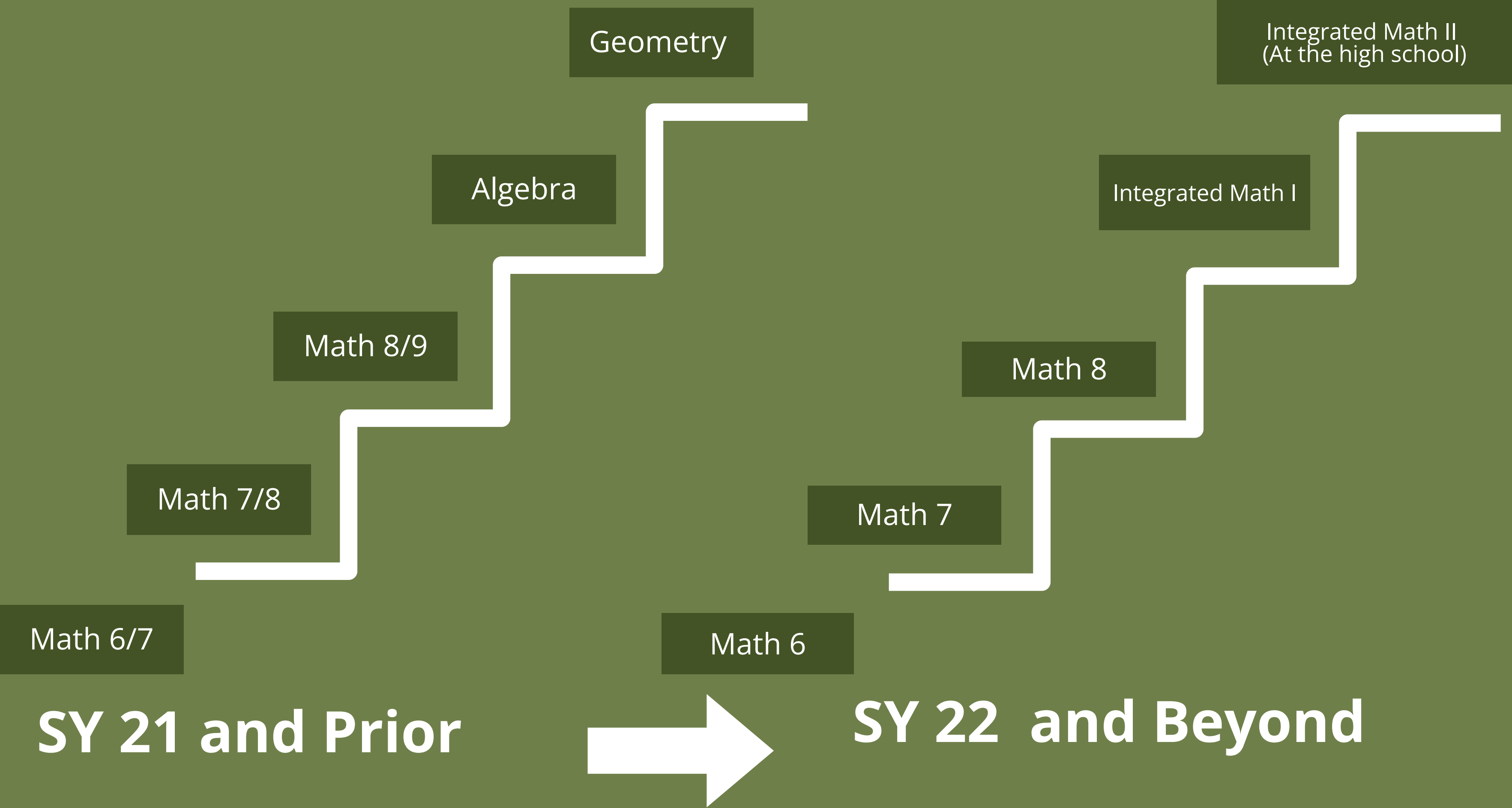
Family concerns about student progress in advanced math courses

OPRF staff concerns about students missing foundational math skills

Timeline of Key Math Initiatives at D97



Middle School Math Course Names and Progression



Importance of Math Access

Eighth Graders Passing Algebra I

The graph displays the percentage of 8th graders passing Algebra I. [Learn More](#) ^

Algebra I is described as a gateway course because students typically need to pass Algebra I before moving on to high level math and science courses. A typical math course sequence would start with Algebra I and continue with Geometry, Algebra II, Pre-Calculus, and Calculus. Students who pass Algebra I in 8th grade will likely have the opportunity to take Calculus before they graduate – a prerequisite for college STEM majors and careers.

- [A Leak in the STEM Pipeline: Taking Algebra Early \(ed.gov\)](#)
- [Algebra: Not "If" but "When" \(National Council of Teachers of Mathematics \)](#)
- [Advanced Math in Eighth Grade \(Brookings Institute\)](#)
- [Why is Algebra so important? \(Great Schools\)](#)

Source: Illinois Report Card website

What parents need to know

Acceleration, Access to Algebra, and Math Review are 3 different initiatives with 3 different purposes

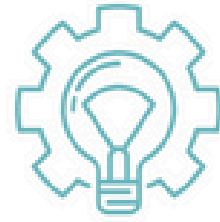
All incoming Middle School students are eligible for Access to Algebra unless already Accelerated in Math

Information about registration in any Math initiative will be available through school and district newsletter as well as the D97 website

Family Information sessions for Math initiatives will take place in January 2025

SY24 Summer Programs

STEM PROGRAMS



Summer Robotics Camp

Grades 4-5

This camp provides an introduction to the exciting world of designing, building, and programming robots, and aims to foster creativity and innovation while developing valuable STEM skills.

Location: Brooks Middle School

June 10 - June 28, 2024

9:00am-12:00pm or 12:30-3:30pm

Middle School Math Enrichment: Bridge

Grades 5-7

Students who are currently accelerated in math are not eligible.

For students who are interested in accelerating in the area of mathematics multiple opportunities to explore a pathway to Integrated Math I by 8th grade. Students are provided additional instructional time to engage in course content before advancing to the next level of mathematics.

Location: Homeschools (Trimester 3)

March 5 - June 4, 2024

Tuesdays & Thursdays

3:00-4:30pm

5th Grade Students only

Location: Brooks Middle School

June 10 - 28, 2024

8:00am-10:00am or 10:00am-12:00pm



Middle School Math Enrichment: Review

Grades 5-7

For students who are interested an opportunity to review grade level Illinois Learning Standards in mathematics during the summer to maintain content and skills learned throughout the school year.

Location: Brooks Middle School

June 10 - June 28, 2024

Monday-Friday

8:00-10:00am or 10:00am-12:00pm

ENHANCED EDUCATION



Extended School Year

PreK (Age 3)-Grade 7

Students with IEPs (as recommended by D97 special education teams)

This program supports the maintenance of skills among students who are at risk of regression or for students with disabilities to attain the critical skills essential to the student's continued progress.

Location: Whittier Elementary School or Brooks Middle School

June 10 - July 3, 2024

8:00am-12:00pm

Summer FUNdational Camp

Grades K-2

Students who have been recommended to receive further academic support in reading and math

This program provides a half-day, two-week, high-impact tutoring program focused on foundational early literacy and math skills.

Location: Whittier Elementary School

June 10 - June 21, 2024

8:00am-12:00pm



LANGUAGE & MUSIC



Multilingual Summer Boost

Grades K-7

Students with ACCESS scores between 1.0 and 3.0

This summer programs helps maintain and improve English proficiency in the areas of speaking, writing, and reading (while supporting the maintenance of home language).

Location: Whittier Elementary School or Brooks Middle School

June 10 - July 3, 2024

8:00am-12:00pm

Summer Music Camp

Grades 4-8

This creative summer camp provides students with additional music experience that complements what they are learning in our general music and instrumental music programs.

Location: Brooks Middle School

July 29 - August 2, 2024

Monday-Friday

8:00am-3:00pm



EXPLORING THE FUTURE



Middle School Explore! Program

Grades 5-7

Students who qualify for free or reduced lunch

This program is an introduction and exploration of college and career interests. Students will experience high-impact tutoring and acceleration opportunities at Brooks Middle School along with exploratory programs such as College for Kids at Triton College where students can select majors and minors in various fields, receiving direct instruction from college instructors and engaging in hands-on activities. In addition, students will enjoy field trips to enhance their program experience.

Location: Brooks Middle School and Triton College

June 10 - June 28, 2024

9:00am-4:00pm

Week One

9:00-11:00am High-impact tutoring and acceleration

11:00am-11:30am Travel to Triton College

11:30am-12:15pm Lunch

12:15-3:15pm College for Kids

3:15-3:45pm Travel to Brooks Middle School

Week Two

9:00-11:00am High-impact tutoring and acceleration

11:00-11:30am Travel field trips

11:30am-3:15pm STEM focused interactive field trips and lunch

3:15-3:45pm Travel to Brooks Middle School

Week Three

9:00-11:00am High-impact tutoring and acceleration (drop-in)

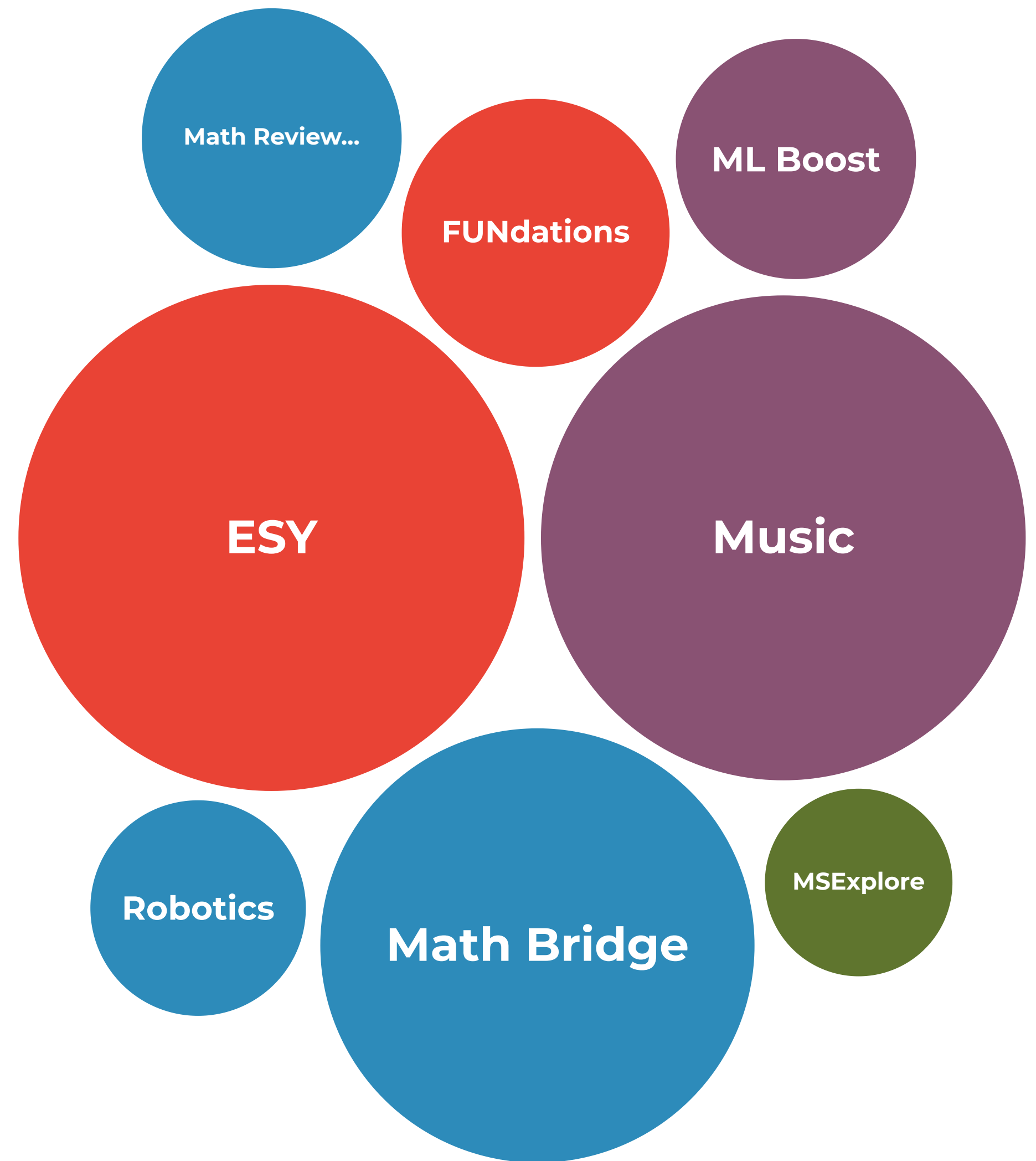
11:00am-3:45pm STEM Camp Opportunities TBD

The desire for learning leads to continued growth.

8 Programs

630 Students

143 Teachers



*May include double-counts of teachers and students who participated in more than 1 program

Bridge Program Evaluation Results

Process-Related Questions

FUNdations, Explore! ESY, Boost:
What were the main factors contributing to **families’ decision not to enroll** in the program?

What were the main factors contributing to **families’ decision to enroll** in the program?

How much **training or professional development** did staff receive prior to delivering instruction?

FUNdations, Explore! ESY, Boost, Math Enrichment - Bridge:
What **% of invited students enrolled** (Take-up rate)? Are there differences by demographics?

Is there a relationship between demographics and attendance rates?

Short-Term Outcomes

To what extent did **teaching staff** feel
a) the training and PD and
b) resources sufficiently prepared them to deliver effective instruction?

To what extent did **families** agree that the program provided sufficient supports in:
a) providing instruction that supported the student’s learning level
b) preparing the student
c) engaging the student
d) communicating about student’s progress
e) making students feel welcomed and valued in the classroom

To what extent did **students** agree that:
a) they were supported by their teacher
b) connected to their peers
c) the program was helpful in preparing the student for the next school year
d) the program has helped the student feel confident in their skills
e) they feel successful in the progress they made
f) the daily schedule was appropriate
g) the program timeframe was appropriate

Long-Term Outcomes

FUNdations:
What percent of students show an improvement on standardized test scores? Are there differences by demographics?

MS Explore!:
What percent of students show an improvement on standardized test scores from Summer to Fall? Are there differences by demographics?

Math Enrichment - Review:
What percent of students see growth between pre- and post exam? Are there differences by demographics?

Math Enrichment - Bridge:
Does D97 see a higher % of students and more parity across demographics in the % of students taking and passing Algebra I/Integrated Math 1 by 8th grade over time?

Are students across demographics passing through Math enrichment programs at similar rates?

ESY:
What percent of students maintain or grow on progress named in the IEP as measured by the first trimester progress report provided by case manage

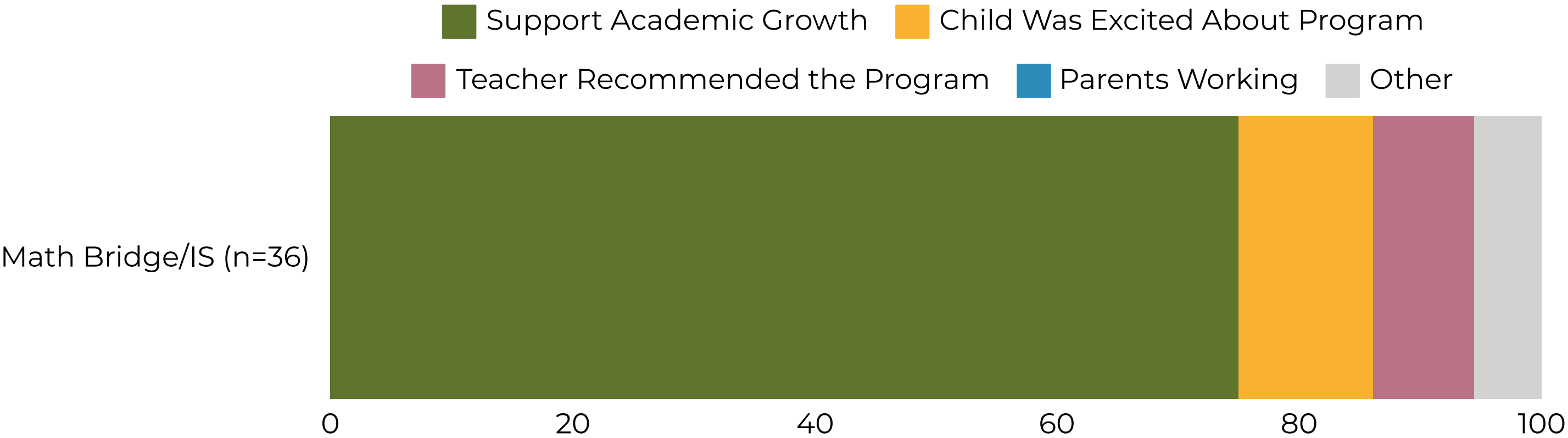
ML Boost:
What percent of students see growth on TELL scores between Spring and Fall? Are there differences by demographics?

MS Connections:
Is there a higher rate of Sense of Belonging among the incoming 6th graders compared to prior cohorts?

Program Evaluation Research Questions

Three-quarters of Bridge families enrolled in order to support students’ **academic growth**.

Families were asked “what was the most important reason you decided to enroll your student in this program?” The percent of respondents indicating each response category by program is shown in the graph to the right.



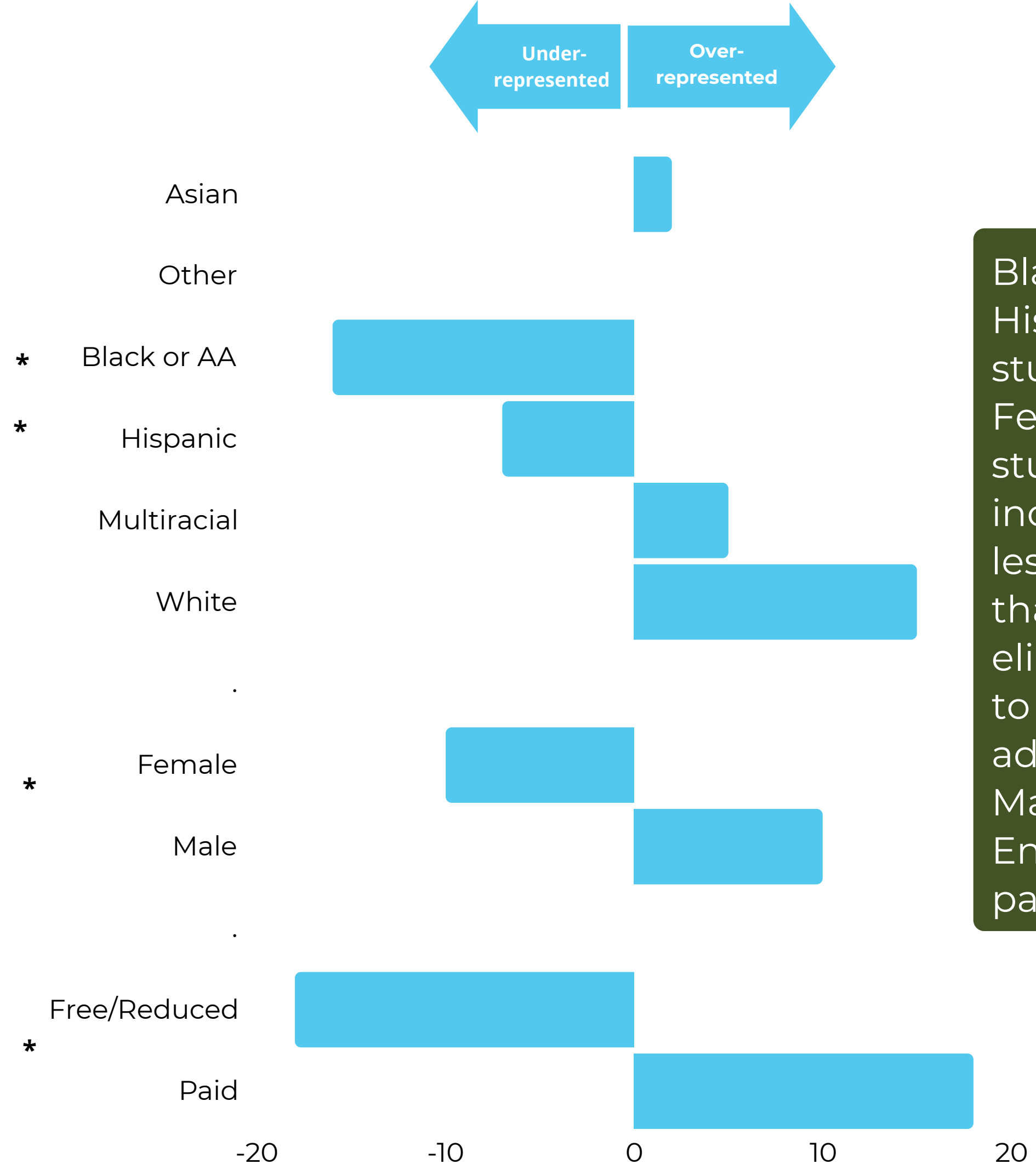
Math Enrichment

(n=251)

Overall Take Up Rate
16%

Graph indicates the difference
in the % of enrolled versus
eligible (defined as not already
Accelerated in Math and
enrolled in MS in Fall SY25) by
demographic group

*Indicates statistically significant
differences ($p < .05$)



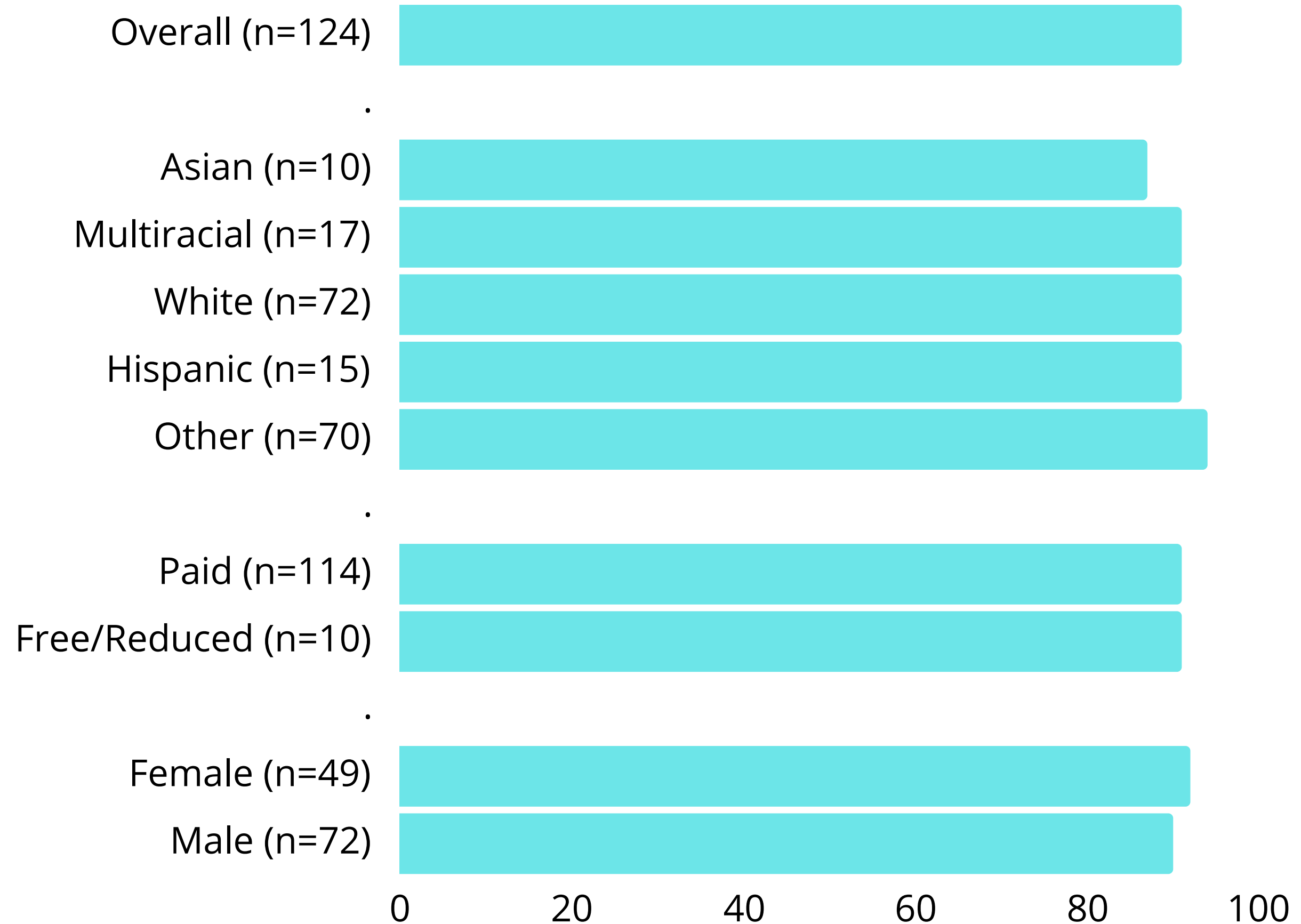
Black and Hispanic students, Female students, low income were less likely than their eligible peers to attempt to advance via Math Enrichment pathway

Average Attendance Rate

14
program
days

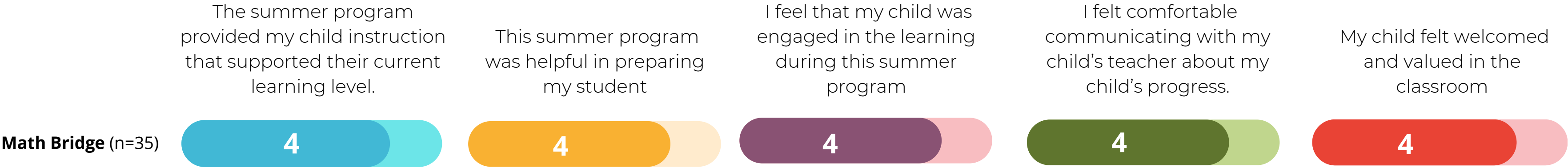
On average, students miss over 1 day of the Bridge program. There are no statistically significant differences across demographic groups.

Note: Includes any student with at least 1 attendance day in the Bridge program



Student and families report high levels of agreement that the Bridge program provided sufficient supports in 5 key areas

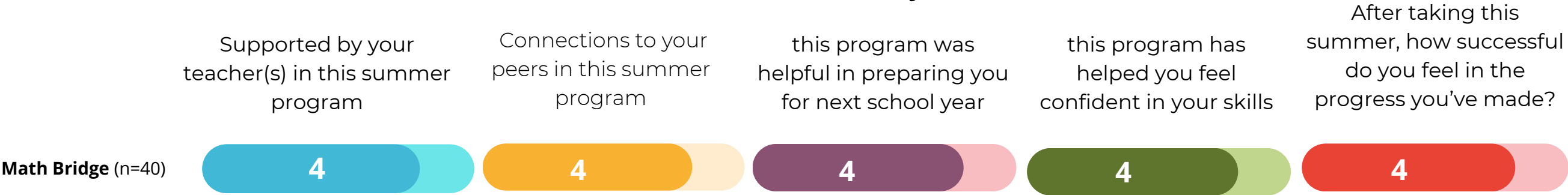
Families were asked to indicate their level of agreement
[1=Strongly Disagree... 3= Neutral...5 = Strongly Agree]
to the below series of questions. The median response is indicated.



Students were asked to respond to each above question on a scale of 1 to 5:

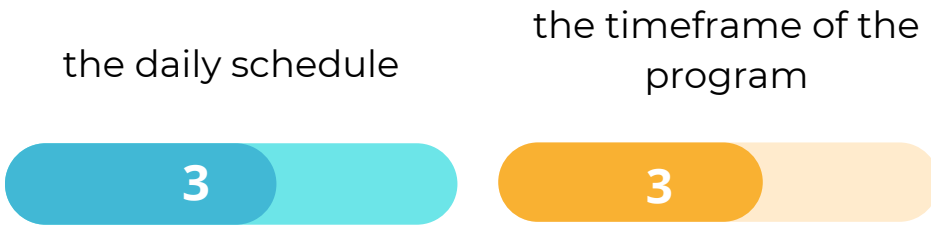
e.g. 1=I feel the course was totally UNHELPFUL...
5 = I feel the course was totally HELPFUL]

The median response is indicated below
To what extent do you feel....



How did you feel about...

(Select "3" if you thought the length was just right)



1=too short/too rushed...
5 = way too long/way too slow



WHAT WORKED WELL



WHAT CAN BE IMPROVED

Math Bridge

Open-ended responses from teachers, students, and families about each program offer additional insights into what worked well and what can be improved in each program

- Teachers were engaging
- Well-organized
- Challenging

- Ensure representation of gender, ES in classes
- Increase breaks during the day
- **Lengthen the program beyond 3 weeks**
- **Quality of instruction, materials**
- Progress reports
- **Earlier and clearer communication** about the program, MAP options

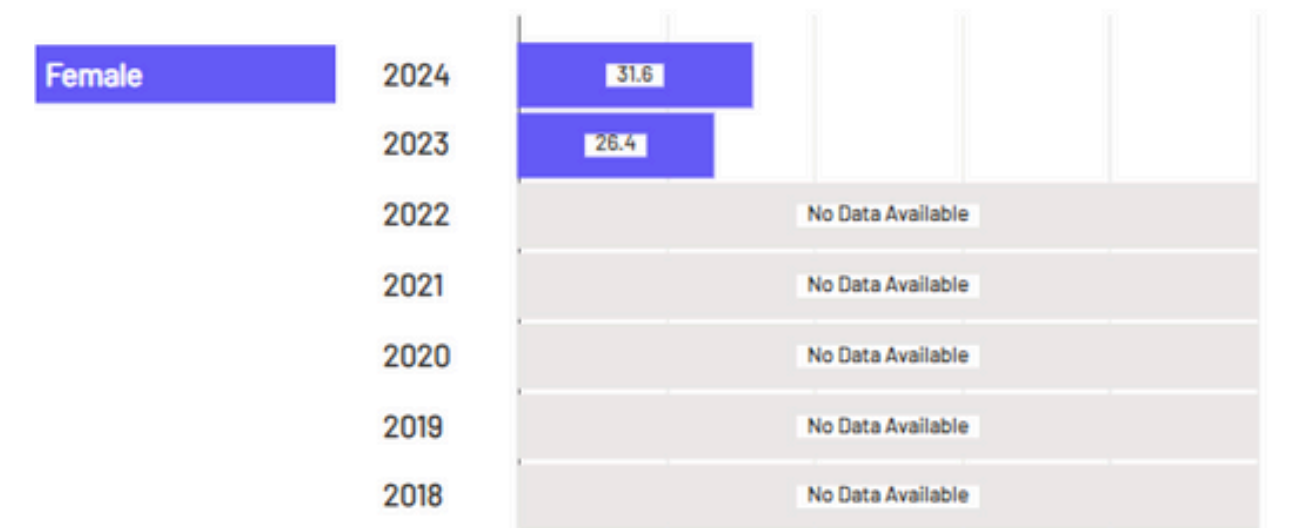
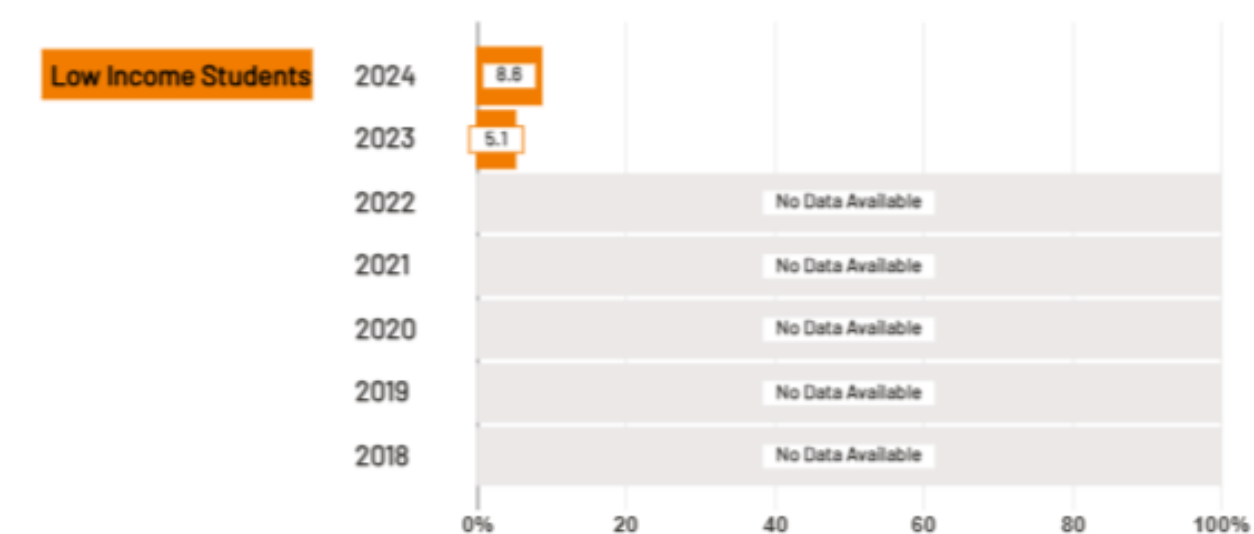
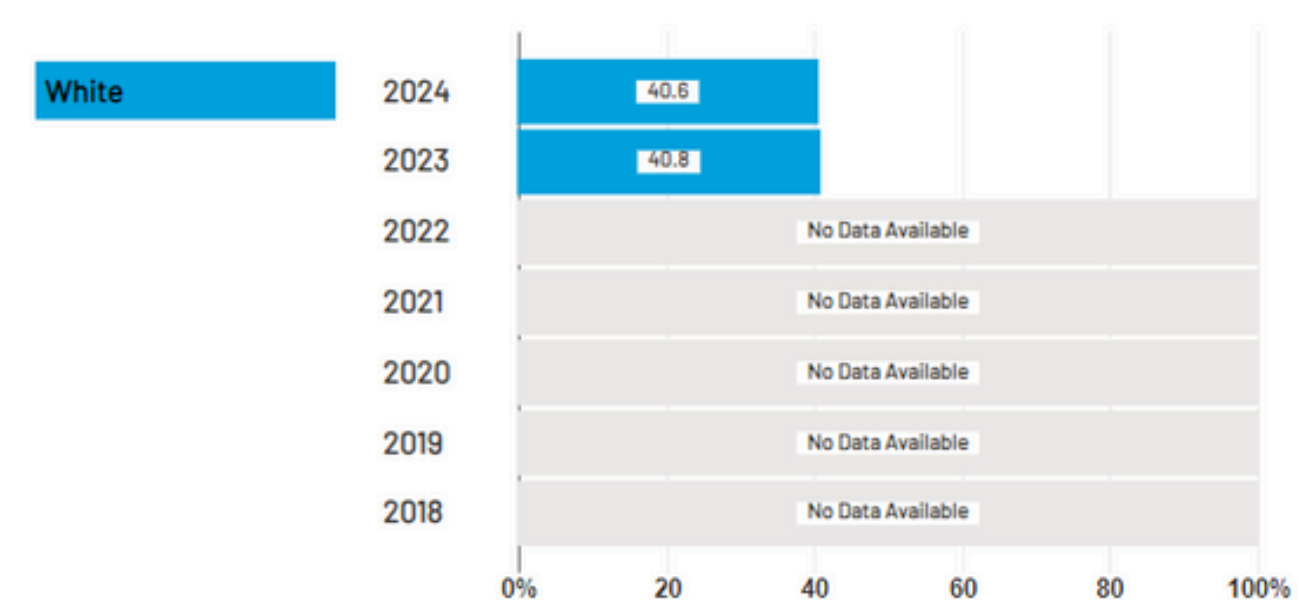
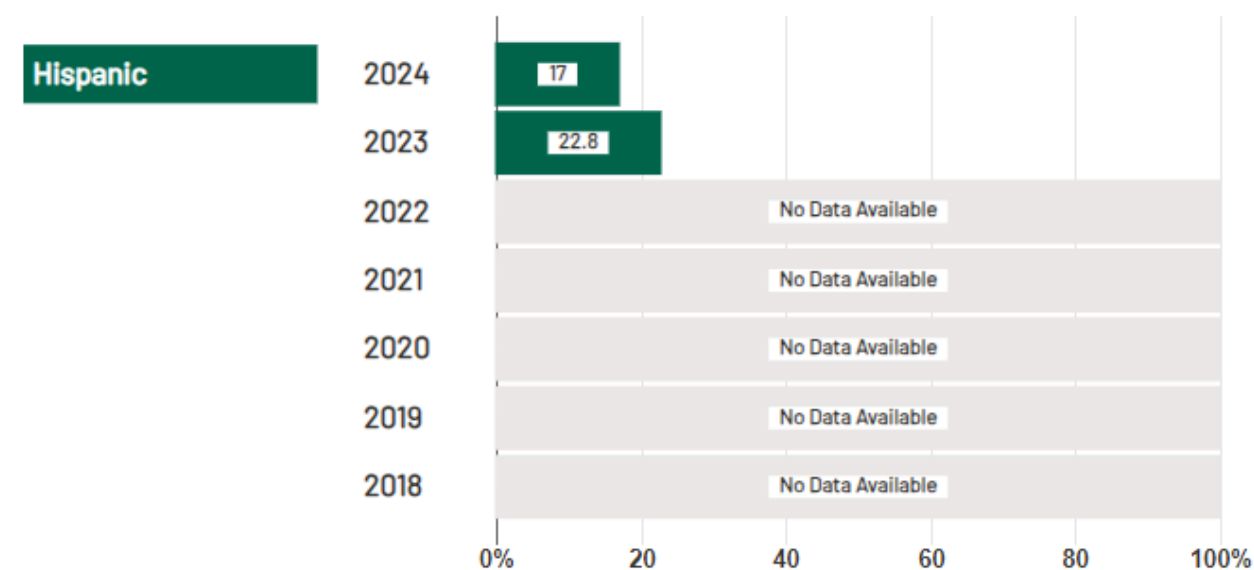
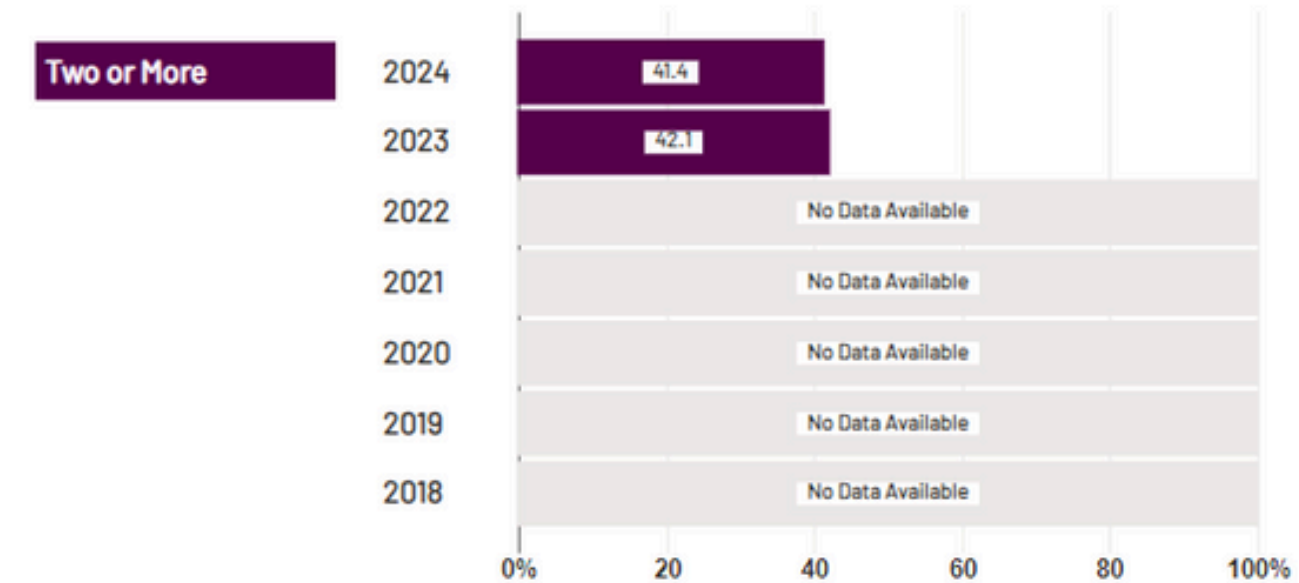
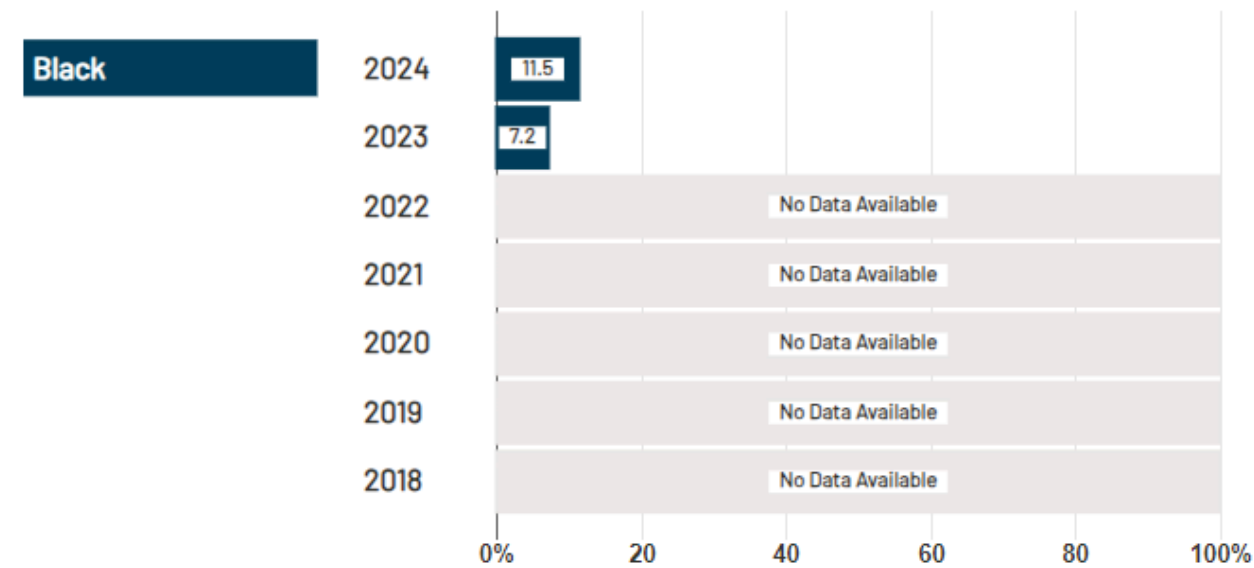
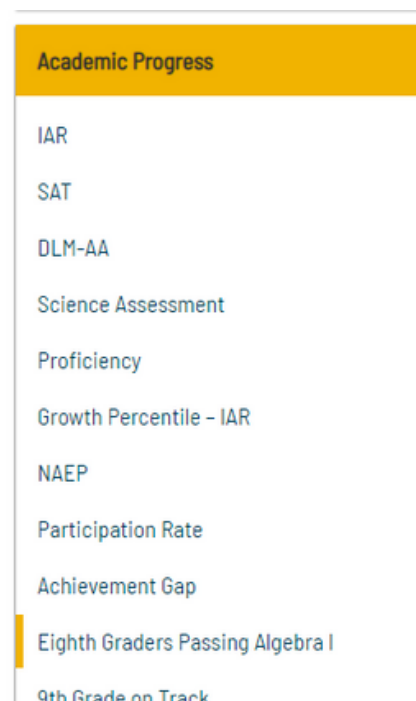
Sentiments repeated more than once across stakeholder surveys are summarized here

Math Enrichment Program Long-Term Outcome Evaluation Results

(All Pathways included)

Over the last 2 years, D97 has increased the % of 8th graders passing Algebra I for many (but not all) key demographic groups.

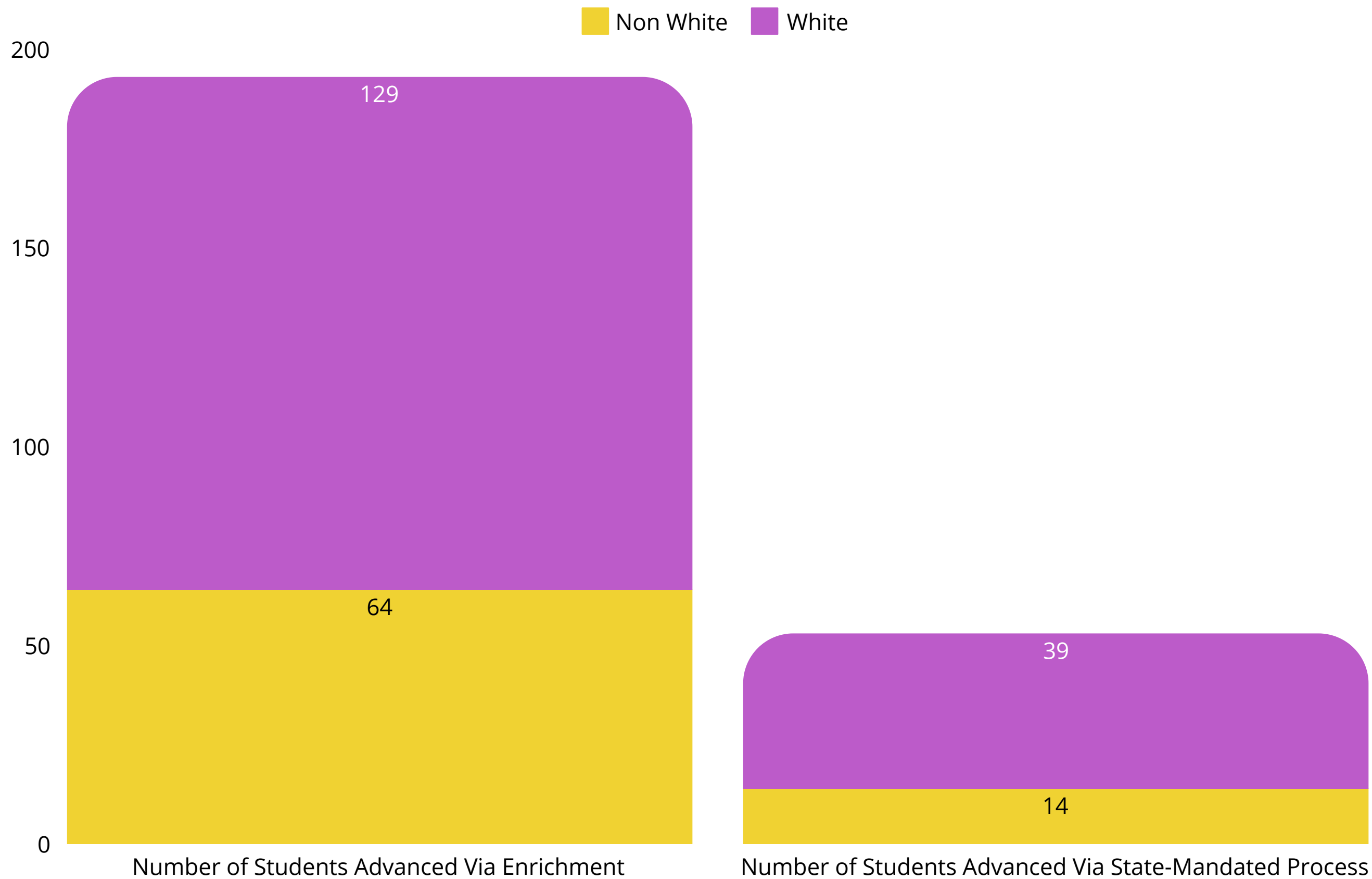
This is in part due to the Bridge program.



Note: Because historically the majority of Math Enrichment attempters are 6th graders, the SY24 data likely mostly reflects Math Bridge course participants in Summer of 2022

Source: Illinois Report Card

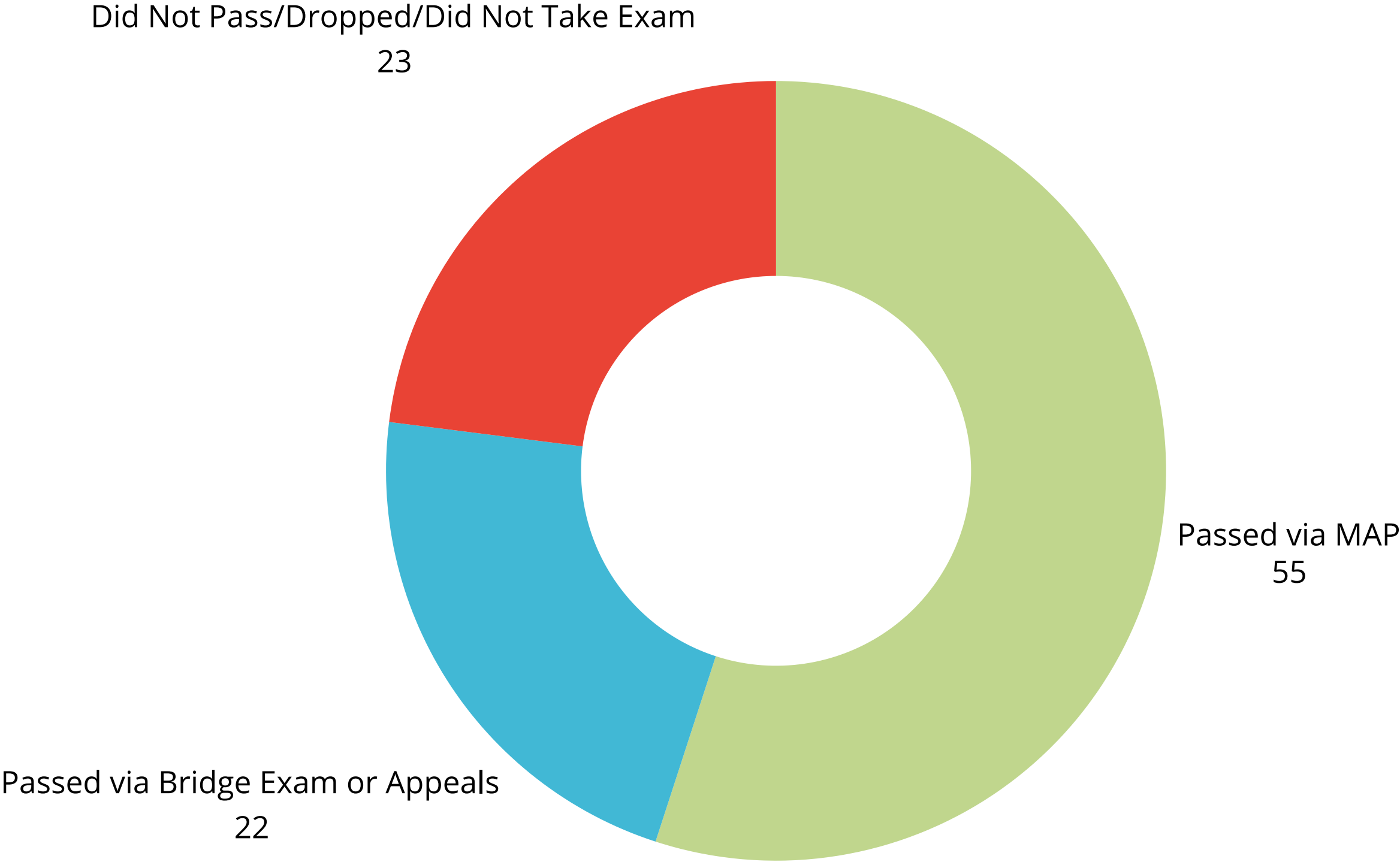
In Summer 24, the Math Enrichment Pathway advanced more students in Math than the state-mandated process, and with a greater share of students of color (33% compared to 26% of state-mandated passers)



Over Three-quarters of students those attempting to advance in Math via MAP or Bridge exam successfully passed

77%
**Overall Math
Enrichment Pass
Rates (MAP or
Bridge Exam)**

*Among 251 attempters



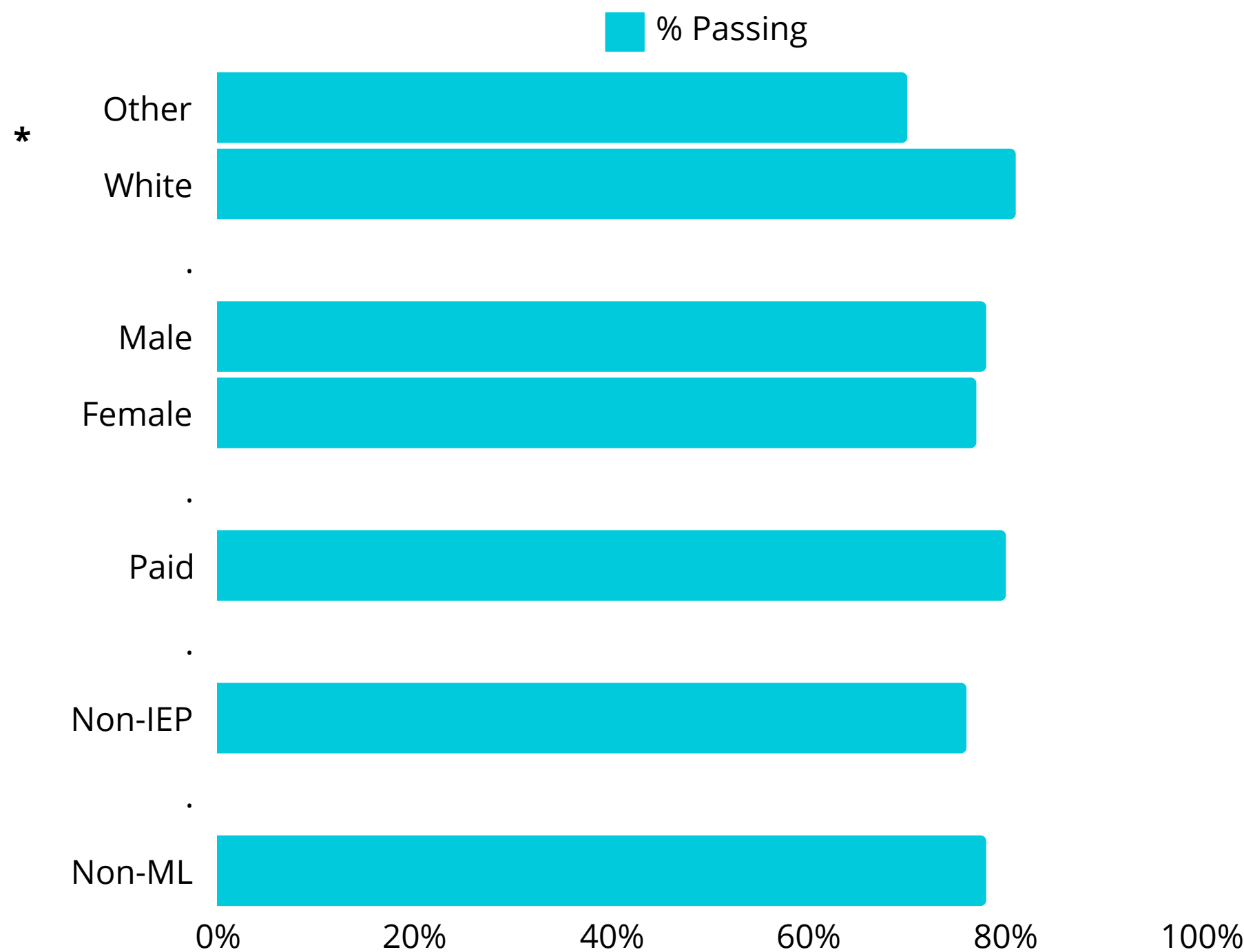
% of Students Attempting to Advance in Math via
a Math Enrichment pathway (MAP or Bridge Exam)?

Disparate enrollment may be a larger issue than demographic differences in pass rates

In Summer 2024,
non-White students
advanced in math via Math
Enrichment pathways at a
lower rate (70%) than
White students (81%).

Disparate enrollment levels
among key demographic
groups prevents fuller
analysis.

% of Students Advancing in Math via a Math Enrichment pathway by demographics



Note: Demographic groups with fewer than 10 in any cell are not shown here.

1 Revise Program to Enhance **Access**
Transform Bridge program schedule
Targeted recruitment strategies

2 Modify Program to Enhance **Quality**

3 Increase Understanding and **Transparency**



3 Main Takeaways

1 Revise Program to Enhance **Access**: Transform Bridge program schedule

SY24 and
prior

6th and 7th Grade
Course during the Day

5th Grade Course
after school

T3 + Summer Program

SY25

6th and 7th Grade
Course during the Day

Move 5th Grade T3
Course during the Day

T3 + Summer Program

SY26

5th - 7th grade course
during the day for
trimester 2 AND 3

No Summer Program

Additional Benefits

- Aligns 5th, 6th, and 7th Grade program schedules
- Does not interfere with after-school extra-curricular and summer activities
- Provides consistency with staffing
- Eliminates program transportation costs
- Decreases costs overall
- Ensures IEP Accommodations and 504 Plans can be maximally supported

1

Revise Program to Enhance **Access**: Targeted Recruitment Strategies



Under-represented groups will receive direct invitations after Benchmark meetings



Teachers will communicate during Family-Teacher Conferences

PTO

PTOs will be enlisted to help disseminate program information

2

Modify Program to Enhance **Quality**



Improve Appeals
Process

6th and 7th
Grade Course
during the Day

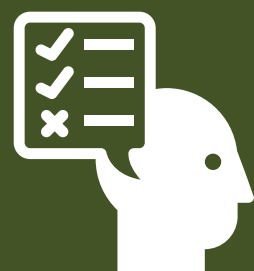


Remove
Independent Study
due to
ineffectiveness

(All students can
sign up to take
exam)

3

Increase Understanding and **Transparency**



Train school staff and administration in understanding program options

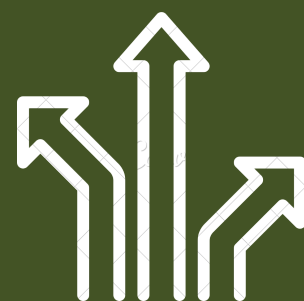


Establish Multiple avenues of communication:

PTOs, Teachers, District, Principals



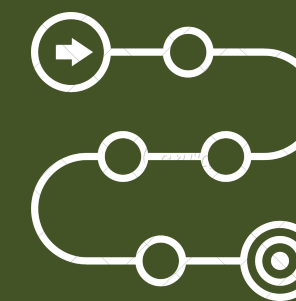
More updated website with all relevant information



Language is clear (acceleration v enrichment)

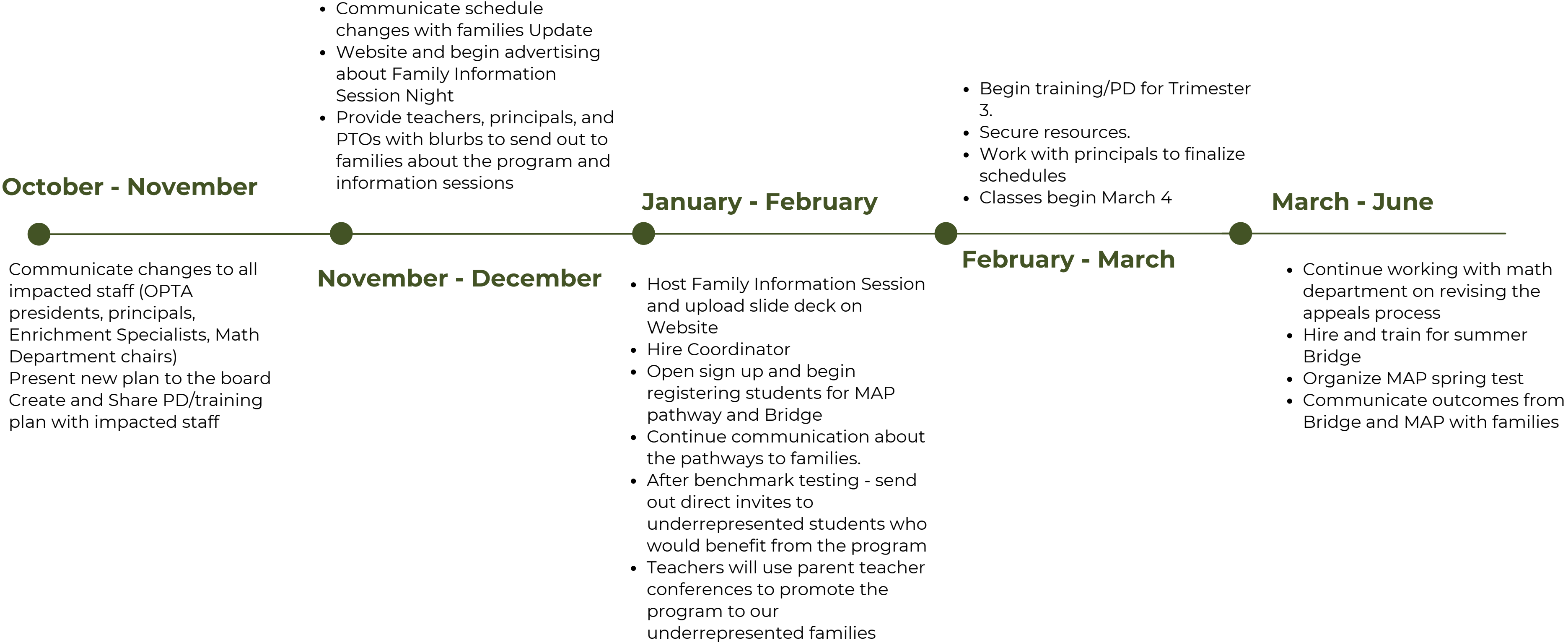


Standardize progress reports



Clear and consistent timeline

SY25 Timeline for Roll-Out



Budget Request

Description of Activity or Services	SY24 Number of Teachers or Employees	SY24 Recommended Stipend or Amount	SY25 Number of Teachers or Employees	SY25 2% increase (Standard D97 Summer Increase)	SY25 Recommended Stipend or Amount	Total Funds
Teacher Stipends - *Math endorsement preferred (Summer Learning: Access to Algebra)	5	\$2,911.00	5.00	\$58.22	\$2,969.22	\$14,846.10
Coordinator (Trimester 3 and Summer Learning: Access to Algebra)	1	\$4,168.00	1.00	\$83.36	\$5,251.36	\$5,251.36
						\$20,097.46