



MATH RECOVERY

A GUILFORD COUNTY STORY

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Math Recovery in GCS: Overview

**HIGH QUALITY
INSTRUCTIONAL
RESOURCES**



**PROFESSIONAL
LEARNING FOR
TEACHERS AND
LEADERS**



**HIGH DOSAGE
TUTORING**



**LEARNING
HUBS**



**MATH
RESULTS**



HIGH QUALITY INSTRUCTIONAL RESOURCES



A GCS Definition of Curriculum

A coherent set of materials and resources that are developmentally and cognitively appropriate. It provides structured, quality tasks that are equitable and inclusive by providing relevant, rigorous, and engaging learning experiences that address gaps in students' knowledge and incorporate authentic assessments. It provides teachers with clear guidance on academic content and skills students should learn across grade levels to meet college and career readiness standards that are taught by all teachers, in all schools, for all students.

High-Quality Math Resources

- **Problem-solving** and **discussion-based curriculum** designed to engage students in math practices every day and support the development of **positive mathematical identities in all students**.
- Built on instructional **frameworks that ensure coherence** among units and courses.
- Provides explicit support for teachers in using the **five practices for orchestrating discussions**.
- Includes **mathematics language routines** and embedded support for **students with disabilities**.
- Rated **“all green”** by EdReports

Defining High Quality Math Instruction

High-quality mathematics instruction **provides access to all students** to maximize their potential in an **equitable and inclusive** learning environment. Students engage in standards-based content and **meaningful tasks** both independently and collaboratively. Teachers foster a community of learners with a focus on **conceptual understanding** and **mathematical discourse**. **Different problem-solving methods** are honored to guide students in uncovering mathematical truths about **their world**.

PROFESSIONAL LEARNING FOR TEACHERS AND LEADERS



Research Support

Professional learning that focuses on teaching strategies associated with specific curriculum content supports teacher learning within their classroom contexts.

Effective Teacher Professional Development, Learning Policy Institute, May 2017, Linda Darling-Hammond, Maria E. Hyler, and Madelyn Gardner, with assistance from Danny Espinoza.

Building Buy-In of Teachers and Leaders

1 Ongoing opportunities for professional development for teachers

- Curriculum resources
- Content pedagogy
- Instructional pedagogy
- Culturally responsive pedagogy

2 Job-embedded coaching for teachers

3 Job-embedded coaching for instructional leadership

4 Norming protocols in collaboration with partners: NTN, Open Up, District and School Leadership

- Travis Lesson Facilitation
- Debrief sessions
- Unit studies

Shifting Teacher Beliefs



Professional Learning Opportunities

Summer/ Beginning of Year *(Required)*

- New to Open Up HS
- Year 2 and Beyond
 - Focus: Shifting teacher practice through intentional sessions

After School Unit Overviews *(Optional)*

- Monthly 90 minute virtual sessions

Saturday Academy *(Invitation)*

- 5 Practices in Practice
- Culturally Responsive Teaching




MATH RECOVERY EFFORTS: HIGH DOSAGE TUTORING AND LEARNING HUBS

Purpose & Action

- Provide free, high-dosage tutoring services for all students
- Established central processes and guidelines to support implementation
- Expanded tutoring efforts by:
 - partnering with local universities to recruit graduate assistants and undergraduate tutors
 - recruited high school students, community professionals and GCS teachers to expand tutoring efforts to students.

High-Dosage Tutoring

More effective than
80%+ 
of other
Academic Interventions



REGULAR
FREQUENCY

2-6 hours
per week

GCS Tutoring Highlights 2021-22

421 tutors **5,251** students tutored
for a total of **66,910** hours in over **109K** sessions

Partnerships included:





In North Carolina, one school district is reaching vulnerable students with personalized support

Getting involved in the learning hub helped me a lot. I have extra resources. It's a place of learning and a place where you can get comfort. You can talk to people about the things that are bothering you, or about the problems that you have in your life. And, I'll admit it, maybe learning hub is a social event for me. But at the same time, at least I'm in a classroom.

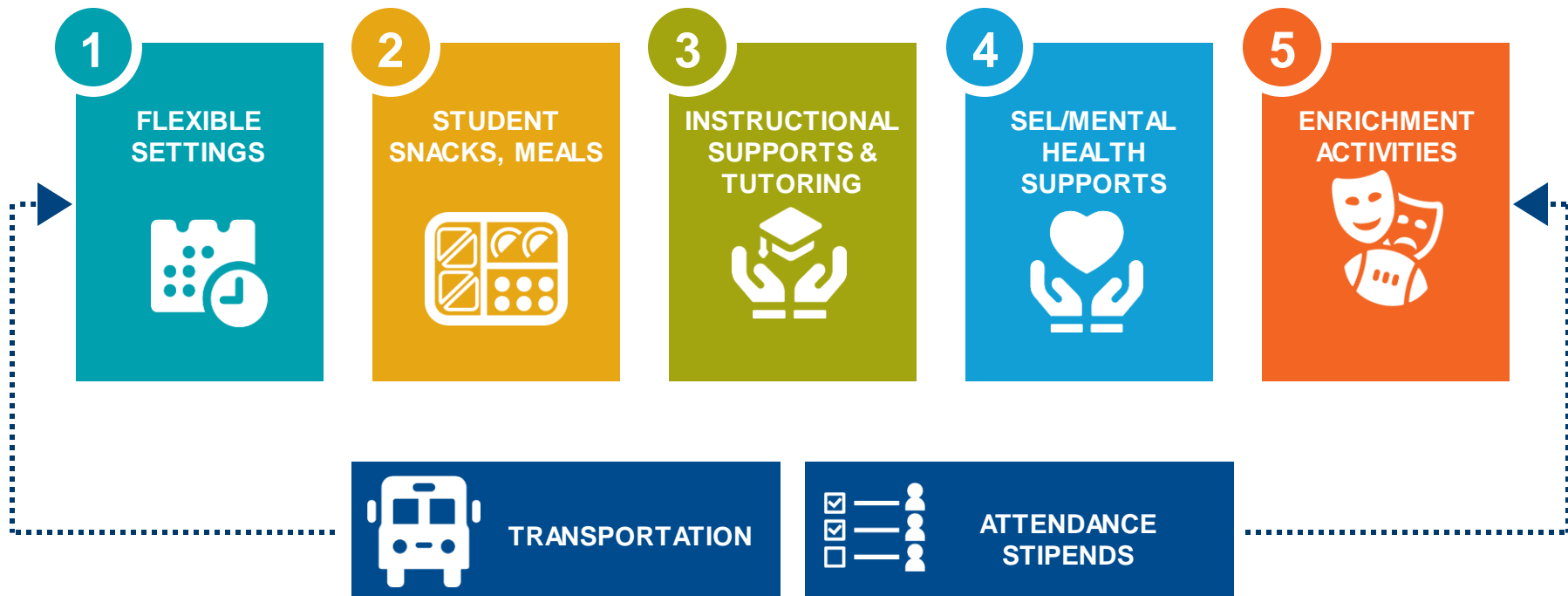



- ✓ **EACH LEARNING HUB INCLUDES**
tutoring, extracurriculars, mental health support and meals
- ✓ **HUBS IMPROVED STUDENT SCORES**
+1.8 (Math) +5.7 (English)

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5,901 students
attended **Learning Hubs** at one of the
15 comprehensive
GCS high schools
in **2021-2022.**

What does a GCS Learning Hub provide?

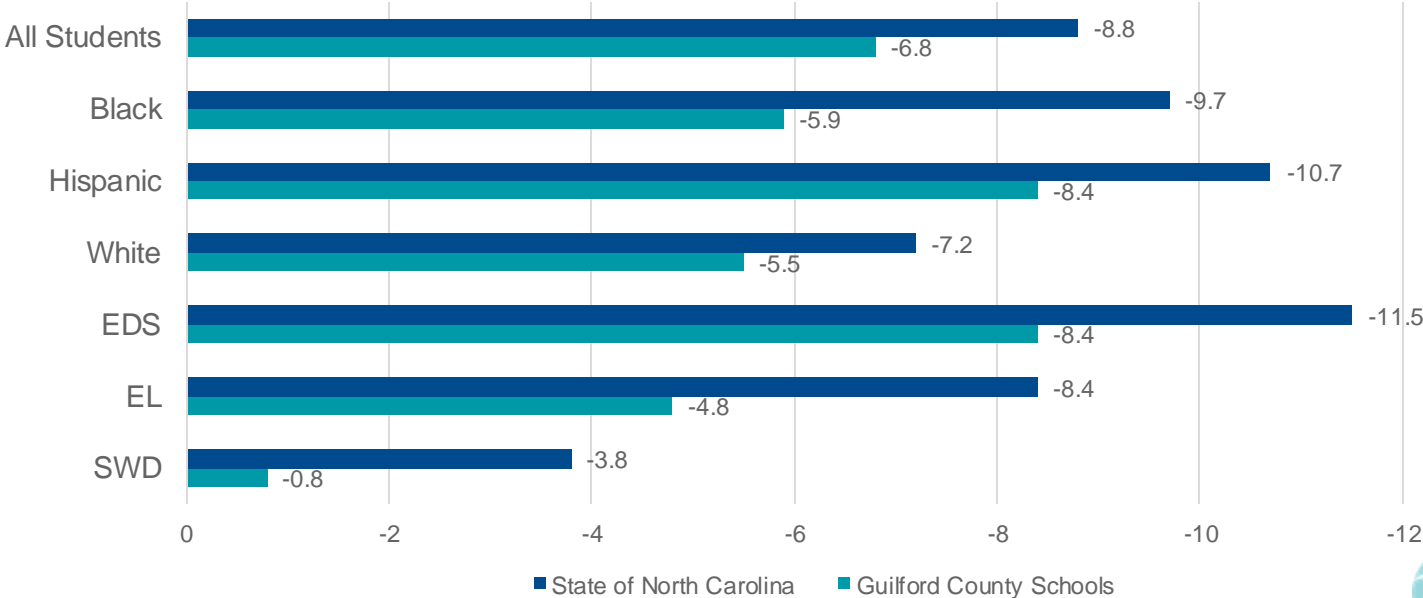




2022 MATH ASSESSMENT RESULTS

GCS Math Recovery Faster Than North Carolina

EOG Math Grades 3-8 Percentage Point Change from 2018-19 to 2021-22 Percent Proficient



In math grades 3-8, GCS is recovering at a faster rate than North Carolina and other large districts in the state.



Celebrations – EOG/EOC Math Assessments

**MATH PROFICIENCY
GRADES 3-8
Math 1 & Math 3**



**for EACH STUDENT group
and for EVERY GRADE
LEVEL**
when compared to 2020-21

**20
SCHOOLS**



**Grade 8 Math
EOG (not including
Math 1)**

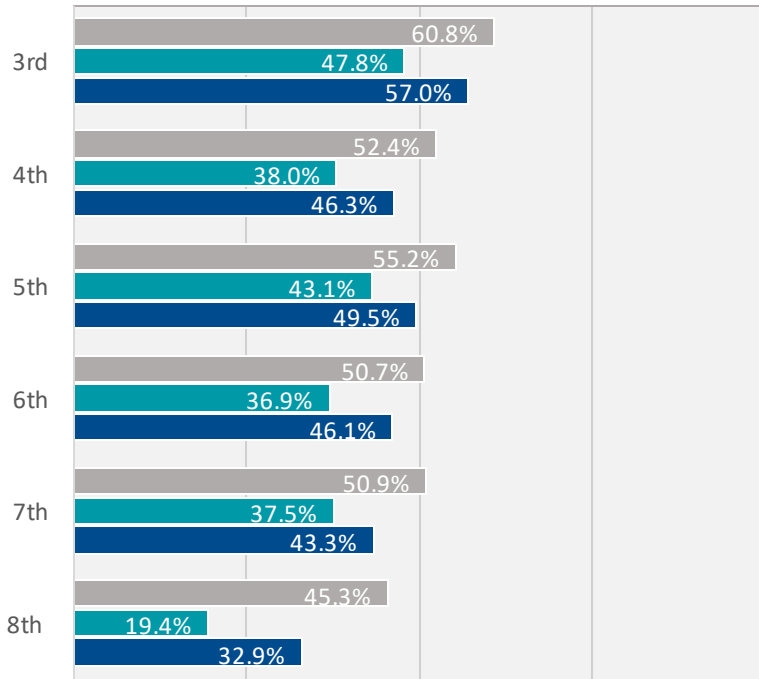
**24
SCHOOLS**



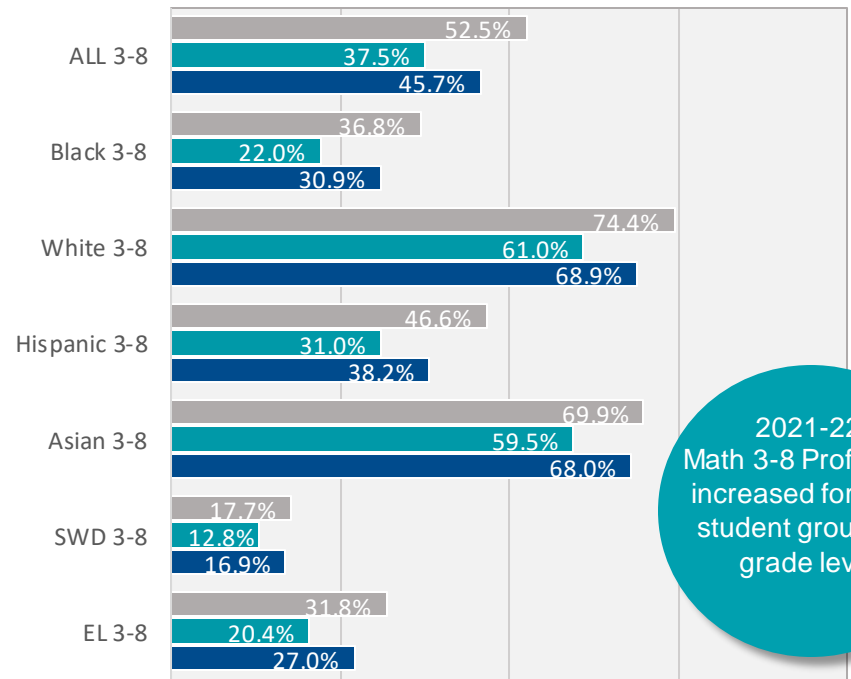
**8th grade Math 1
EOC scores**

Grades 3-8 EOG Math

Proficiency by Grade Level



Proficiency by Student Group

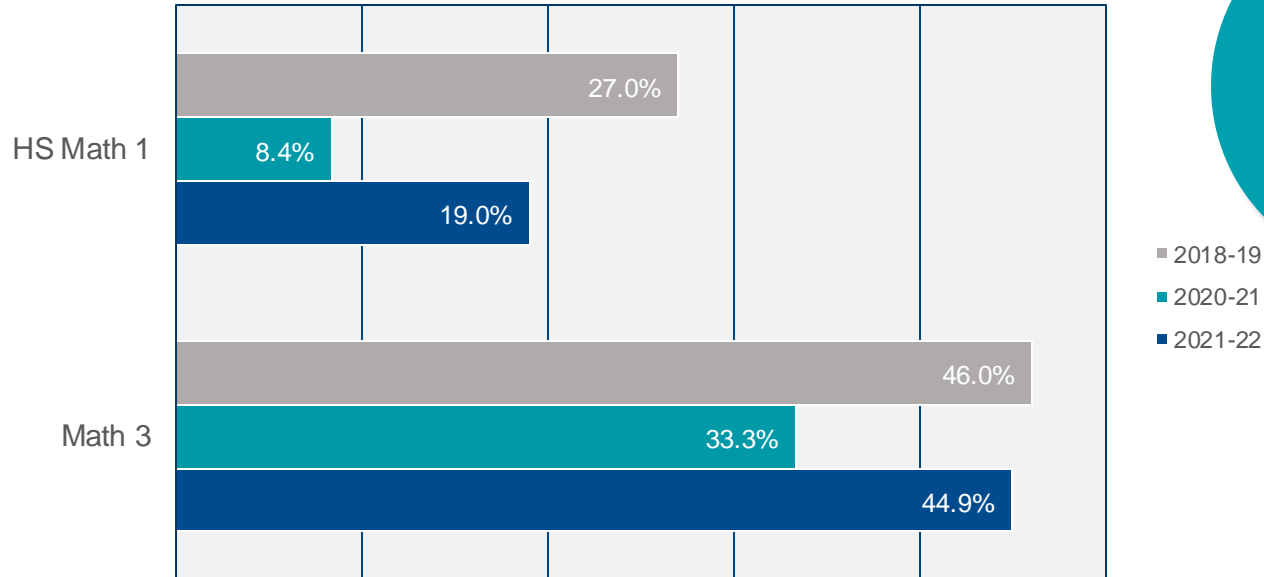


2021-22
Math 3-8 Proficiency
increased for every
student group and
grade level.

■ 2018-19 ■ 2020-21 ■ 2021-22

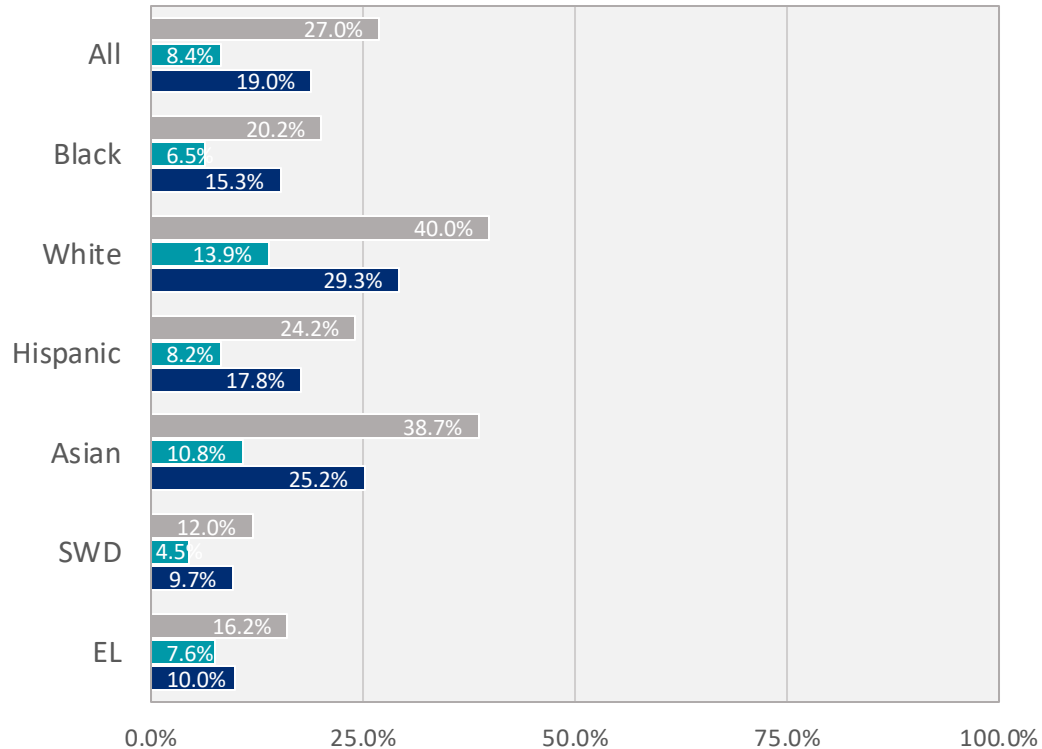


EOC Proficiency



Math 3 had the largest increase in proficiency for 2021-22 compared to the other EOC assessments.

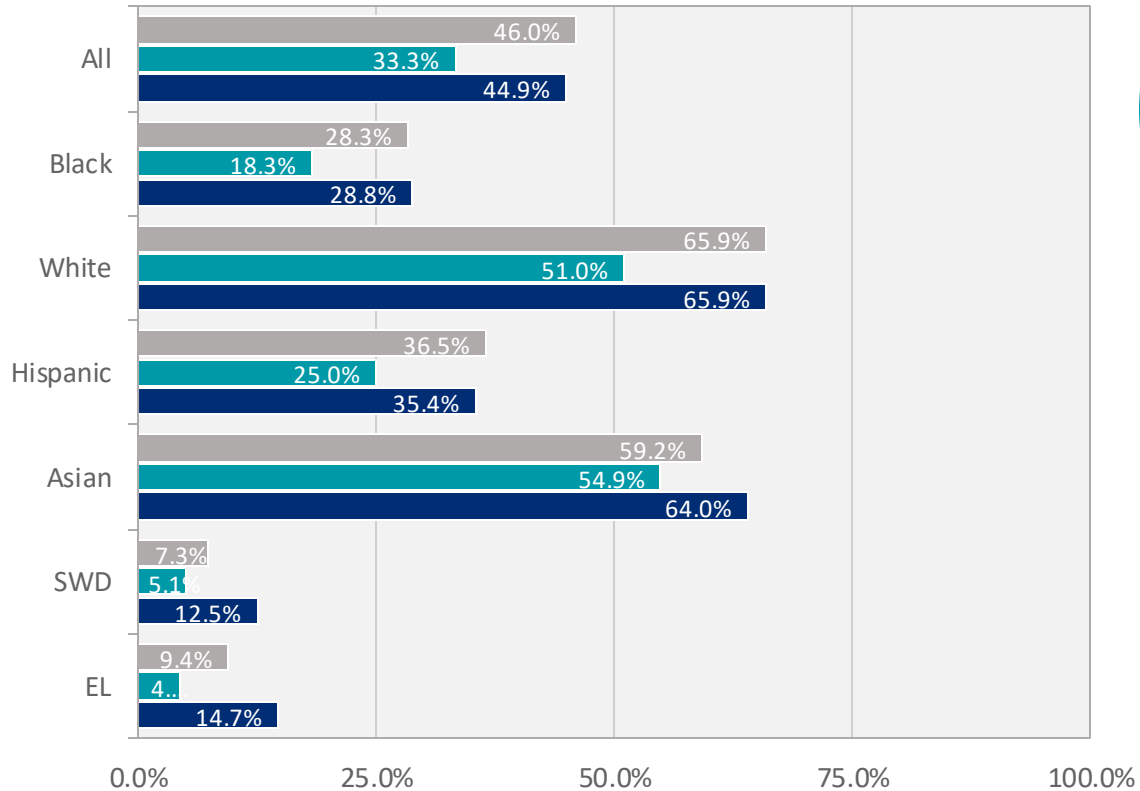
Math 1 EOC Proficiency (Grades 9-12)



High school Math 1 EOC proficiencies more than doubled in 2021-22 compared to 2020-21 for all racial groups and Students with Disabilities.

■ 2018-19
■ 2020-21
■ 2021-22

Math 3 EOC Proficiency



Math 3 proficiency was **equal to or higher** in 2021-22 than in previous years for multiple student groups including Black, White and Asian students, English Learners and students with disabilities.

- 2018-19
- 2020-21
- 2021-22



Questions & Dialogue

