Accelerating to Algebra: Initiative Overview, Timeline, and Processes

January 2020
District Goal:

Long-term District Goal: In August 2020, all Kindergarten students will begin a path of study in mathematics to prepare them to complete Algebra I in Grade 8 in 2028-2029.

Short-term District Goal: In August 2020, Fulton County Schools will provide an opportunity for Grade 6 students to begin a path of study in mathematics to prepare them to complete Algebra I in Grade 8 in 2022-2023.
WHY???
Multiple research studies have shown that taking more rigorous, higher-level mathematics courses is associated with positive high school and postsecondary outcomes.

*Example:* Study that followed Florida students over time found that taking at least one higher-level math course (beyond Algebra I) by the fall of 10th grade was correlated with:

- Higher 10th grade math assessment scores
- Higher graduation rates
- Higher 4-year college enrollment
More than 75% of students are not taking Algebra I in eighth grade and therefore are significantly less likely to reach advanced, college-level coursework by 12th grade.

Students often do not have the opportunity to take more advanced courses due to scheduling and sequencing limitations.

*BUT* many students currently do not have the opportunity to take advantage of advanced coursework offerings.
AND there are significant differences in access to these advanced courses for different student groups.

- Non-economically disadvantaged students in the district are significantly more likely to be enrolled in an advanced math course in 8th grade than their economically disadvantaged peers.
Black/African American and Hispanic students in the district are significantly less likely to be enrolled in an advanced math course in 8th grade than their peers.

**Math Enrollment for Students in Grade 8**

- **All Students**: 28%
- **Asian**: 58%
- **Black or African American**: 14%
- **White**: 44%
- **Two or More Races**: 33%
- **Hispanic**: 11%

**Advanced Math (Algebra I/Geometry)**
In Fulton, we

• believe that all learners deserve a chance at success in the future
• prepare all learners to have limitless possibilities after high school
• help learners become interested and curious about mathematical ideas and exploring answers to relevant questions
• open doors of opportunity rather than close opportunities for hope
• commit to high expectations for all learners
• develop positive, caring relationships with learners
• Richmond County Schools
• Gwinnett County Schools
• Clayton County Schools
Richmond County

• Richmond County is in their third year.
• At the end of Grade 7, students are identified to take Algebra I in Grade 8 or Algebra I (with embedded Grade 8 standards) over two years Grade 8 and 9.
• In 2018-2019, 33 percent (666 students) of Grade 8 students took Algebra I in Grade 8 while 67 percent (1,359 students) are continuing to complete Algebra I this school year in Grade 9. Of the 666 students, 26 percent scored Proficient or higher on the Algebra I End of Course Test. Of the 1,359 students, 6 percent scored Proficient or higher on the Grade 8 Math End of Grade Test.
• Gwinnett County is in their first year.

• Using a similar model to Richmond, 75 percent of their Grade 8 students are taking Algebra I and will take the End of Course in May

• Twenty-five percent are taking Grade 8 Math (with some Algebra standards embedded) and will take the Grade 8 Math End of Grade Test.
Clayton County

• Clayton County is two years away.

• This year they have enrolled all Grade 6 students in the state's accelerated math courses. Students will take Math 6 and 7.1 this school year, Math 7.2 and 8 next school year (2020-2021) and Algebra I in grade 8 (2021-2022).
Long- and Short-term Strategies

**Long-term Strategy**
- Improve Student Readiness
  - Birth to 5 Ready to Learn Partnerships
  - Re-design K-7 Math Curriculum

**Short-term Strategy**
- Strengthen Continuous Achievement
  - Simplify Placement Guidelines
  - Implement GaDOE Accelerated MS Curriculum (2020-2026)
Fall 2019: Data Discussions
Invite Private Providers to Data Discussion with FCS staff. Share GKIDS Readiness Data. Provide insight on FCS transition services.

Winter 2020: Early Childhood Summit & Regional Meetings
Enlist Community Partners and build support for Early Childhood Programs. Build Awareness of Early Childhood resources and connect families to support in each Board Member’s District.

Spring 2020: Host 2 Parent Education Summits – (Kindergarten Round-Up 2.0)
Focus on Kindergarten Readiness. Connect parents to resources in the community. Provide health and academic screenings. Register for FCS Kindergarten, Summer Transition, FCS Kindergarten and FCS PREP

Summer 2020: Expand Summer Transition Programs across the District
Use the Bright from the Start template to offer Rising Kindergarten programs in 30 elementary schools across the district. Target students that did not attend a GA PreK or full day Preschool program. Not income-based.

Fall 2020: Launch FCS PREP
Provide parents with essentials needed to prepare their children (ages 0-5) for school readiness.
Re-design K-7 Math Curriculum

We will engage highly effective mathematics teachers, school leaders, and experts in the field of mathematics education to develop a curriculum to prepare all students to succeed in Algebra I in Grade 8.
To begin preparation for all Kindergarten students to begin the accelerated coursework in 2020-21, the district is engaged in the following action steps this year:

• Early Implementation with Six Elementary Schools
• Development and Engagement of the Educator Advisory Committee
• Engagement of External Partners
• Presentations at Learning Community Principal Meetings
To begin preparation for all Kindergarten students to begin the accelerated coursework in 2020-21, the district will be engaging in the following action steps this year:

• **Early Implementation with Six Elementary Schools**
  
  – Six schools are implementing the “K Enhanced Curriculum” that includes Kindergarten standards as well as standards from Grade 1.
  
  – Crabapple Crossing, Findley Oaks, Heards Ferry, Shakerag, Stonewall Tell, Summit Hill
To begin preparation for all Kindergarten students to begin the accelerated coursework in 2020-21, the district will be engaging in the following action steps this year:

• **Early Implementation with Six Elementary Schools**

• **Development and Engagement of the Educator Advisory Committee**
  – Committee will be responsible for proposing revisions to the standards course map and sequence to prepare all students for Algebra I by Grade 8.
  – Committee will be made up of approximately 20-25 people, including teachers, instructional coaches, and administrators.
Committee’s Charge

• Work collaboratively in and across grade bands to:
  – Identify key algebraic concepts needed to ensure student success in Algebra I by 8th grade
  – Develop a clear sequence of learning that supports students to develop and master algebraic thinking and concepts in grades K-7
  – Recommend a revised course map and sequence for grades K-7 math
  – Provide recommendations and considerations on student and teacher needs to successfully implement the revised course map and sequence
Educator Advisory Committee Overview

1st Meeting: November 5
- Committee’s Charge and Role
- Research Overview
- Development of Algebraic Thinking

2nd Meeting: November 20
- Develop a clear sequence of learning of algebraic thinking and concepts in grades K-7
- Begin developing recommended course map and sequence

3rd Meeting: December 9
- Continue developing recommended course map and sequence
- Grade band planning
- Vertical planning
- Finalize first draft

4th Meeting: January 15
- Review external feedback on course map and sequence
- Make revisions
- Finalize second draft

5th Meeting: January 30
- Make final revisions
- Identify and brainstorm solutions for teacher and student support needs
To begin preparation for all Kindergarten students to begin the accelerated coursework in 2020-21, the district will be engaging in the following action steps this year:

• Early Implementation with Six Elementary Schools
• Development and engagement of Educator Advisory Committee
• **Engagement of External Partners**
  – Fulton County has engaged key partners with expertise in the field of mathematics education to provide guidance and feedback regarding the revisions to the standards sequence and course maps as well as implementation of such changes.
To begin preparation for all Kindergarten students to begin the accelerated coursework in 2020-21, the district will be engaging in the following action steps this year:

- Early Implementation with Six Elementary Schools
- Development and engagement of Educator Advisory Committee
- Engagement of External Partners
- **Presentations at Learning Community Principal Meetings**
  - District leaders will present updates on the progress of the initiative and collect feedback at Learning Community Principal meetings throughout the year.
Long- and Short-term Strategies

Long-term Strategy

- Improve Student Readiness
  - Birth to 5 Ready to Learn Partnerships
  - Re-design K-7 Math Curriculum

Short-term Strategy

- Strengthen Continuous Achievement
  - Simplify Placement Guidelines
  - Implement GaDOE Accelerated MS Curriculum (2020-2026)
Strengthen Continuous Achievement

We will modify the placement guidelines and build a Continuous Achievement Identification Report to simplify the process of identifying students for advanced and accelerated Reading/ELA and Math.
Implement GaDOE Accelerated MS Curriculum

We will offer the state’s accelerated middle school math curriculum to all Grade 6 and 7 students coupled with a STEM-based connections course for beginning and developing learners.
How might we provide a path for all students to take Algebra I by Grade 8?

GaDOE Accelerated MS Curriculum

<table>
<thead>
<tr>
<th>Rationale</th>
<th>Timeline &amp; Content</th>
<th>Student &amp; Teacher Supports</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Georgia Department of Education provides a curriculum map and course</td>
<td>2019-2020: Scheduling &amp; Resource Allocation Support for</td>
<td>Required Connections Course for Students &lt; Level 3 on Georgia</td>
</tr>
<tr>
<td>overview for teaching 6.1, 6.2, and 7.1 in Grade 6 and 7.2, 8.1, and 8.2</td>
<td>2020-2021: Grade 6: 6.1, 6.2, 7.1</td>
<td>Milestones</td>
</tr>
<tr>
<td>in Grade 7.</td>
<td>2021-2022: Grade 7: 7.2, 8.1, 8.2</td>
<td>i-Ready for additional time on targeted skills</td>
</tr>
<tr>
<td>2022-2023: Algebra I in Grade 8</td>
<td></td>
<td>District-led Professional Learning Community for Teachers</td>
</tr>
</tbody>
</table>
Math Placement Guidance Documents

Math Profile Cards

Mathematics Placement Guidelines for 2020-2021 School Year

Current Grade Level: Math Student's Current Course

Next Year Placement: Student's Current Performance

Grade 5

Math 5 On-Level (5-5, 5-2, 5-1)
- Anticipated promotion to Grade 6
- Math 5.5 Average & 80% or Summative Unit Assessment Average < 80% Off Grade 5 or 4 Georgia Milestones Math Level 1 or 2
- Parents may need to request Math 6 On-Level and must commit to additional support

Math 5 Advanced (5-2/5, 5-1)
- Math 5.5 Average & 80% or Summative Unit Assessment Average ≥ 80% On Grade 5 or 4 Georgia Milestones Math Level 1 or 2
- Parents may need to request Math 6 On-Level

Grade 6

Math 6 On-Level (6-5, 6-6, 6-7)
- Anticipated promotion to Grade 7
- Math 6.5 Average & 80% or Summative Unit Assessment Average ≥ 80% Off Grade 6 or 5 Georgia Milestones Math Level 1 or 2
- Parents may need to request Math 7 On-Level

Math 6 Advanced (6-6, 6-7)
- Math 6.5 Average < 80% or Summative Unit Assessment Average ≥ 80% On Grade 6 or 5 Georgia Milestones Math Level 1 or 2
- Parents may need to request Math 7 On-Level

Math 6: Enhanced course includes all standards from Grade 6 math and Semester 2 standards from Grade 7 math. Students who pass Math 6 Enhanced will continue in Grade 7 math.

What is the Math 6 Enhanced Curriculum?

The Math 6 Enhanced course includes all standards from Grade 6 math and Semester 2 standards from Grade 7 math and all standards from Grade 8 math. Students who pass Math 7 Enhanced will take Algebra I in Grade 8.

Will my student who is completing the on-level Math 5 course be required to take the Math 6 Enhanced course?

No, parents will choose whether their student continues with the on-level Math 6 course or takes the Math 6 Enhanced course. Parents will be provided with information regarding their student’s math performance to make the best decision for their student.

If a student is accelerated in mathematics, what Georgia Milestones Assessment does s/he take?

A student accelerated in math takes the End of Grade Assessment for the level and grade placement unless s/he is taking Algebra I or Geometry. A student enrolled in Algebra I or Geometry takes the End of Course Assessment for that course. A Grade 6 student enrolled in the on-level Math 6 course, Math 6 Advanced, Math 6 Enhanced, or Math 6 will take the Georgia Milestones Assessment for Grade 6 Math.
What supports will be in place for students who take Math 6 Enhanced?

- Students who choose to take Math 6 Enhanced and have scored a Level 1 or 2 on a past Georgia Milestones Assessment for Math will automatically be placed in Math 6 Connections Enrichment.
- The Math 6 Connections Enrichment course will provide engaging STEM based opportunities to improve foundational knowledge and preview and reinforce content provided in the Math 6 Enhanced course.
- The Georgia Tech Center for Education Integrating Science, Mathematics, and Computing (CEISMC) AMP IT UP modules will be used in the course.
Sample AMP IT UP Module

*Whale Challenge: Data Saved the Whales*

Students model plankton and temperature data collected at different ocean depths in the Antarctic to determine whether a research vessel will collide with whales. They construct coordinate graphs of the data to identify whether the data is linear or non-linear, discern whether a variable is independent or dependent in the relationship, and reason quantitatively about the data relationships.
Summer Professional Learning for Kindergarten & Grade 6 Teachers

• June 8 – 10
• June 15 – 17
• June 22 – 24
• July 13 – 15
• July 20 – 22
• July 27 – 29

Each week the professional learning will be provided at a North and South location.
1. Student mobility
2. Student readiness
3. Teacher preparation/readiness
4. Mental health considerations
Questions?