



# Georgia Performance Standards K-12 Mathematics

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New Teacher Symposium  
Georgia World Congress Center  
September 26-27, 2005



# Comparison of QCCs and GPS

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## Ratio and Proportion

1. How are the curricula alike?
2. How are the curricula different?
3. Is one better than the other?
4. Why or why not?



# The Task

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1. How does the task relate to the standards?
2. How does the task affect your feelings about the standards?

# Overview of Mathematics Standards

1. WHY a new curriculum?
2. WHO was involved?
3. WHAT is it?
4. WHEN does it all happen?
5. WHERE are we?





# WHY a new curriculum?

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## Rationale

- PDK Audit
- Age of QCC
- Alignment of Instruction and Assessment
- Alignment to International Standards



# WHY a new curriculum?

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## Mandate

- Rigor
- Depth
- Clear Expectations
- Instructional Guide
- Student-Focused



# WHO was involved?

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## Process

- Advisory Panel
- Writing Teams
- Review Process
- Revision
- Adoption



# WHO was involved?

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K-8

- Writing teams
- Review
- Revision
- Adoption



# WHO was involved?

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6-12

- Teacher Teams
- High School Advisory Committee
- Public Review
- Dr. Ann Shannon
- Revision
- Adoption



# WHO was involved?

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## Endorsements

- Board of Georgia Council of Teachers of Mathematics
- Senior Vice Chancellor for Academic Affairs of the Board of Regents
- Regents Academic Advisory Committee on Mathematical Subjects
- High School Department Chairs, Cobb County Schools
- Fayette County Schools



# WHAT is it?

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## K-8 Mathematics

- K-2: Four strands: number and operations, measurement, geometry, and data analysis
- 3-5: Algebra strand is added
- 6-8: In-depth treatment of algebra and geometry begins in grade 6; traditional first-year algebra and much of the traditional geometry course completed by the end of grade 8.



# WHAT is it?

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## High School Mathematics

- Three Course Sequences
- Common Level of Mastery
- Multiple Paths of Study



# High School Course Chart

Core Mathematics	Mathematics	Accelerated Mathematics
Core Math I	Mathematics I	Accelerated Math I
Core Math II		
Core Math III	Mathematics II	Accelerated Math II
Core Math IV		
	Mathematics III	Accelerated Mathematics III
	Mathematics IV	
		AP Calculus



# WHAT is it?

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Students must be given the time and the guidance to construct their own understandings of mathematics as opposed to memorizing the understandings of others.



# WHAT is it?

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## Underlying Principles

- Lean
- Rigorous
- Coherent
- Balance of Concepts, Skills and Problem Solving
- Student Focused



# WHAT is it?

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## Strengths of the Curriculum

- Aligned to National and International Standards
- Relevant to Student Needs and to the 21<sup>st</sup> Century
- Provides Clear Expectations for Student Performance
- Allows Alignment of Instruction and Assessment



# WHAT is it?

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## Implications for the Classroom

- Students Actively Engaged in Mathematics
- Explaining Thinking
- Justifying Work
- Using Multiple Representations
- Making Connections
- Choosing appropriate technology



# WHEN does it all happen?

Year	Teacher Training	Classroom Implementation
2004	Grade 6	
2005	Grades K-2, 7	Grade 6
2006	Grades 3-5, 8	Grades K-2, 7
2007	High School	Grades 3-5, 8
2008		Grade 9
2009		Grade 10
2010		Grade 11
2011		Grade 12



# Where are we?

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- Grade 6 Framework on Web
- K-2 and Grade 7 Frameworks in Progress
- Task Committees Formed and Working
- High School Tasks Commissioned
- PRISM
- RESA Collaborative
- MSP Partnerships



# Where are we?

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## Tasks, Student Work, Commentary

Grades K-2

Amy Krause

Grades 3-5

Linda Oliver

Grade 6

Lynn Stallings

Grade 7

Frieda Powell

Grade 8

Lenisera Bodison

High School

Ann Shannon



[www.georgiastandards.org](http://www.georgiastandards.org)

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- Executive Summary
- K-12 Mathematics Curriculum
- Sixth Grade Instructional Framework



# Contact Information

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HS Claire Pierce [cpierce@doe.k12.ga.us](mailto:cpierce@doe.k12.ga.us)

# Parts of a Performance Standard

- Content Standard
- Tasks
- Student Work
- Teacher Commentary

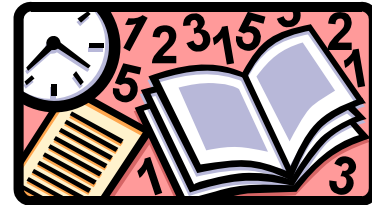




# Content Standards

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- Body of knowledge
- What students should know and be able to do





# Tasks

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- Give detail to the elements of the content standards
- Provide depth of understanding
- Define academic rigor of standards
- Exemplify the kind of performance expected of students



# The Cylinder Task

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- Is this task different from work presently being done in traditional mathematics classrooms?
- Does this task do what a task is supposed to do?



# Student Work

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- Reflects the level a student should attain by the end of a grade or course
- Further defines the content standards
- Illustrates the kind of performance expected of students
- Relates to a strand or topic rather than a single standard, embodying many concepts



# Commentary

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- Identifies the mathematics involved in the task
- Identifies evidence of understanding related to a specific standard
- Guides the teacher in understanding the depth, detail and rigor expected in work that meets the standard
- Guides students in comparing and judging the quality of their own work



# Examining Student Work

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- We all complete the assignment or task.
- We analyze the demands of the assignment or task.
- We identify the standards that apply to this assignment.



# Examining Student Work

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- We generate a rough rubric or scoring guide for this assignment from the standards and the assignment.
- We score the student work, using the rubric/scoring guide.
- We analyze student work to plan strategy for improving students' performance.



# Examining Student Work

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- Find evidence of one thing stated in the standards that this student understands, knows or is able to do.
- Name the mathematical concept you have identified and describe the evidence you have found.