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Transition to the Common Core Georgia Performance Standards in Atlanta Public Schools

Teacher Professional Development

Pre-Planning 2012

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Pre-Assessment

Test your knowledge of the Common Core Performance Standards

Curriculum and Instruction

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Teaching and Learning

School Improvement & Leadership Development

B.E.S.T. Academy Middle School
B.E.S.T. Academy High School
Coretta Scott King YWLA Middle School
Coretta Scott King YWLA High School

Student Services

Administrative Services

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Examples of Metrics

	ELA/Literacy	Mathematics
Classroom Materials and Instructional Resources	Reading lists are appropriately balanced between nonfiction and literary text.	Materials are focused... ERASE!
Teacher Knowledge and Practice	At least 80% of questions are text-dependent.	Teachers have a deep understanding of the major work of their grade.
Student Work	Student work demonstrates close encounters with text - demanding evidence through writing.	Student work illustrates fluency and deep understanding in the major work of the grade.

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Common Core State Standards for English Language Arts and Content Literacy: *The Key Shifts*

English Language Arts and Content Literacy Activity # 1

Setting the Stage

Portrait of a Literate Individual

- With an elbow partner, use the handout, *"Setting the Stage: Portrait of a Literature Individual"* to discuss the characteristics of a literate individual.

- Discuss and list examples of each student characteristic.

CCGPS for English Language Arts and Content Literacy Goals

- Review background knowledge about the Common Core Standards
- Explore Common Core Georgia Performance Standards
- Gain an understanding of APS' approach to implementation
- Provide an Introduction to the each of the Shifts
- Outline the implications for Science and Social Studies
- Provide introduction to the APS lesson plan template

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The Background of the Common Core State Standards

- Initiated by the National Governors Association (NGA) and Council of Chief State School Officers (CCSSO) with the following design principles:
  - Result in College and Career Readiness
  - Based on solid research and practice evidence
  - Fewer, higher and clearer

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The Standards

Do. . .

define what students should know

articulate fundamentals

set grade-level standards

Do Not . . .

determine how teachers should teach

define all that should be taught

define intervention methods or materials

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Three Shifts in ELA/Literacy

1. Building knowledge through content-rich nonfiction
2. Reading, writing and speaking grounded in evidence from text, both literary and informational
3. Regular practice with complex text and its academic language

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Shift 1

Building Knowledge Through Content-Rich Nonfiction

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Content Shift #1

Content-Rich Nonfiction

- 50/50 balance in K-5
- 70/30 in grades 6-12
- Students learning to read should exercise their ability to comprehend complex text through read-aloud texts.
- In grades 2+, students begin reading more complex texts, consolidating the foundational skills with reading comprehension.
- Reading aloud texts that are well-above grade level should be done throughout K-5 and beyond.

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Content Shift #1

Sequencing Texts to Build Knowledge

- Not random reading
- Literacy in social studies/history, science, technical subjects, and the arts is embedded

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Building Knowledge Through Content-Rich Nonfiction: Why?

- Students are required to read very little informational text in elementary and middle school.
- Non-fiction makes up the vast majority of required reading in college/workplace.
- Informational text is harder for students to comprehend than narrative text.
- Supports students learning how to read different types of informational text.

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See It in Action

Building Knowledge Through Content-Rich Nonfiction

Video Presentation – Selection of Texts

Elementary Example

http://cdn.americaachieves.org/resources/5_Reading_Sims_1_Tubman.mp4

Secondary Example

http://cdn.americaachieves.org/resources/9_Reading_Eckhardt_1_The_Lottery.mp4

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Pair Share Activity

- Take a few minutes to finish recording your observations from the video.
- Then talk with your elbow partner about your observations.
- Be prepared to share your observations with the group.

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Shift 2

Reading, Writing and Speaking Grounded in Evidence From Text, Both Literary and Informational

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Reading, Writing and Speaking Grounded in Evidence from Text: Why?

- Most college and workplace writing requires evidence.
- Ability to cite evidence differentiates strong from weak student performance on NAEP
- Evidence is a major emphasis of the ELA Standards: Reading Standard 1, Writing Standard 9, Speaking and Listening standards 2, 3 and 4, all focus on the gathering, evaluating and presenting of evidence from text.
- Being able to locate and deploy evidence are hallmarks of strong readers and writers

Content Shift #2

Text-Dependent Questions

Not Text-Dependent	Text-Dependent
•In "Casey at the Bat," Casey strikes out. Describe a time when you failed at something.	What makes Casey's experiences at bat humorous?
•In "Letter from a Birmingham Jail," Dr. King discusses nonviolent protest. Discuss, in writing, a time when you wanted to fight against something that you felt was unfair.	•What can you infer from King's letter about the letter that he received?
•In "The Gettysburg Address" Lincoln says the nation is dedicated to the proposition that all men are created equal. Why is equality an important value to promote?	•"The Gettysburg Address" mentions the year 1776. According to Lincoln's speech, why is this year significant to the events described in the speech?

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See It in Action

Reading, Writing and Speaking Grounded in Evidence from Text

Video Presentation – Text-dependent Questions

Elementary Example

http://cdn.americaachieves.org/resources/2_Reading_Liben_1_lesson.mp4

Middle School Example

http://cdn.americaachieves.org/resources/9_Reading_Eckhardt_1_The_Lottery.mp4

High School Example

http://cdn.americaachieves.org/resources/11_English_Kelly_1_lesson.mp4

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Pair, Share Activity

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Shift 3

Regular Practice with Complex Text and Its Academic Language

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Regular Practice With Complex text and Its Academic Language: Why?

- Gap between complexity of college and high school texts is huge.
- What students can read, in terms of complexity is greatest predictor of success in college (ACT study).
- Too many students are reading at too low a level. (<50% of graduates can read sufficiently complex texts).
- Standards include a staircase of increasing text complexity from elementary through high school.
- Standards also focus on building general academic vocabulary so critical to comprehension.

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What are the Features of Complex Text?

- Subtle and/or frequent transitions
- Multiple and/or subtle themes and purposes
- Density of information
- Unfamiliar settings, topics or events
- Lack of repetition, overlap or similarity in words and sentences
- Complex sentences
- Uncommon vocabulary
- Lack of words, sentences or paragraphs that review or pull things together for the student
- Longer paragraphs
- Any text structure which is less narrative and/or mixes structures

Scaffolding Complex Text

The standards require that students read appropriately complex text at each grade level – independently (Standard 10).

However there are many ways to scaffold student learning as they meet the standard:

- Multiple readings
- Read Aloud
- Chunking text (a little at a time)

Provide support **while** reading, rather than before.

Close Analytic Reading

- Requires prompting students with questions to unpack unique complexity of any text so students learn to read complex text independently and proficiently.
- Not teacher "think aloud“.
- Virtually every standard is activated during the course of every close analytic reading exemplar through the use of text dependent questions.
- Text dependent questions require text-based answers – evidence.

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See It in Action

Academic Vocabulary and Complex Texts

Elementary Example

http://cdn.americaachieves.org/resources/2_Reading_Liben_1_lesson.mp4

Middle School Example

http://cdn.americaachieves.org/resources/9_Reading_Eckhardt_1_The_Lottery.mp4

High School Example

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- Be prepared to share your observations with the group.

Structure of the Standards

- Four Strands: Reading, Writing, Speaking and Listening, Language
- Each strand has Science/technology and social studies standards for literacy
- Text complexity standards are listed by grade "bands": K-1, 2-3, 4-5, 6-8, 9-10, 11-12, CCR – College and

Strand

Anchor Standard

Grade-Specific Standard

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10 College and Career Readiness Standards for Reading (K-12)

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textural evidence when writing or speaking to support conclusions drawn from text.

2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

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10 College and Career Readiness Standards for Reading

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

6. Assess how point of view or purpose shapes the content and style of a text.

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10 College and Career Readiness Standards for Reading (K-12)

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.[1]

8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

9. Analyze how two of more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

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10 College and Career Readiness Standards for Reading (K-12)

Range and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently

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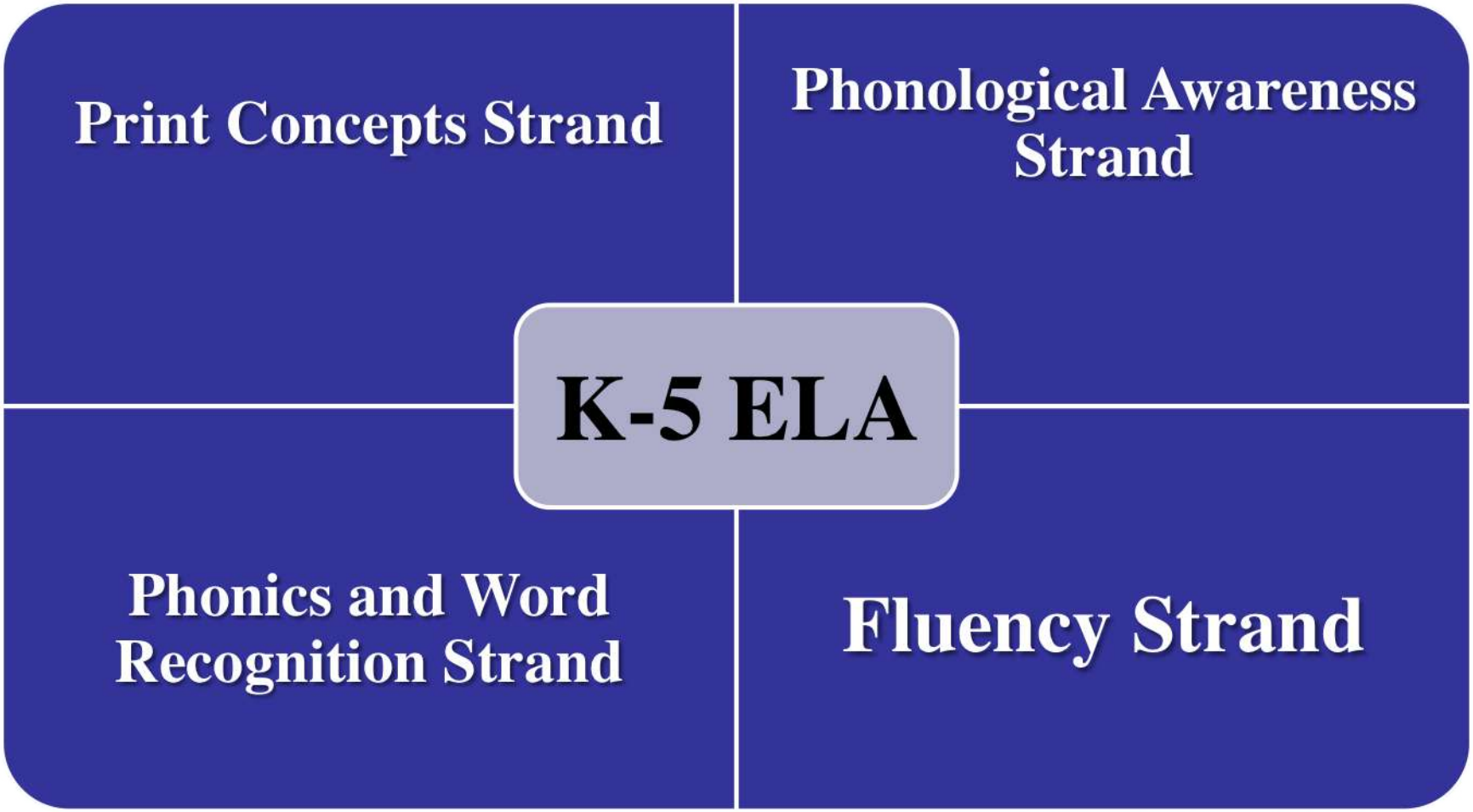
4 Foundational Reading Standard Skills (K-5)



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Identify the Standard

ELACCRI . 4 . 2

Strand Grade Standard Number

Identify the Standard

W. 11-12. 1b

Strand — Grades — Standard Number

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Common Core Georgia Performance Standards for Mathematics: Attaining Focus, Coherence, and Rigor

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Apple Farm Field Trip

- Work problems 1 – 4 and then answer the following questions?

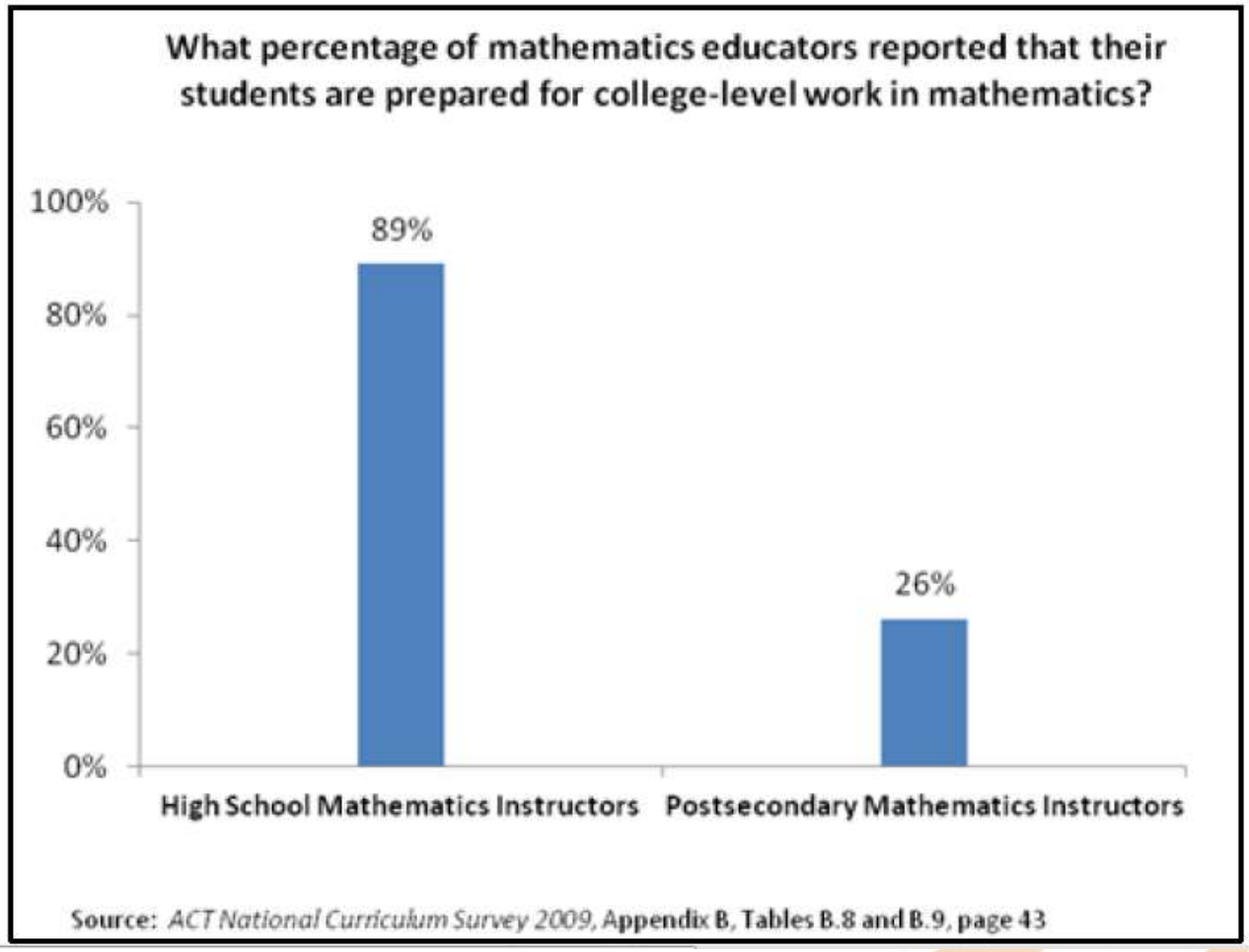
1. What are the key mathematical understandings of this activity?
2. What previous learning is a foundation for these understandings?
3. What future mathematical understandings would this activity provide a good foundation for?

Apple Farm Field Trip

- Work problems 1 – 4 and then answer the following questions?

4. What standard(s) are addressed in this task?
5. What evidence do you have for selecting these standard(s)?

College Math Professors Feel HS students Today are Not Prepared for College Math



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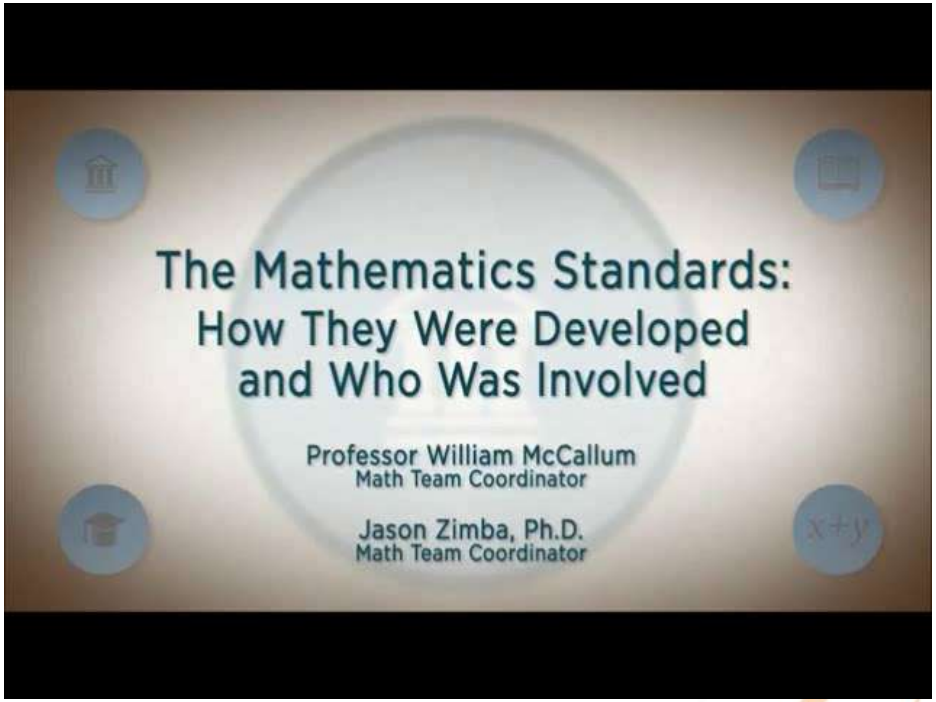
What The Disconnect Means for Students

- Nationwide, many students in two-year and four-year colleges need remediation in math.
- Remedial classes lower the odds of finishing the degree or program.
- Need to set the agenda in high school math to prepare more students for postsecondary education and training.

http://www.youtube.com/watch?v=dnjbwJdcPjE



Write down what you hear about these three words: **Focus**, **Coherence**, and **Rigor**

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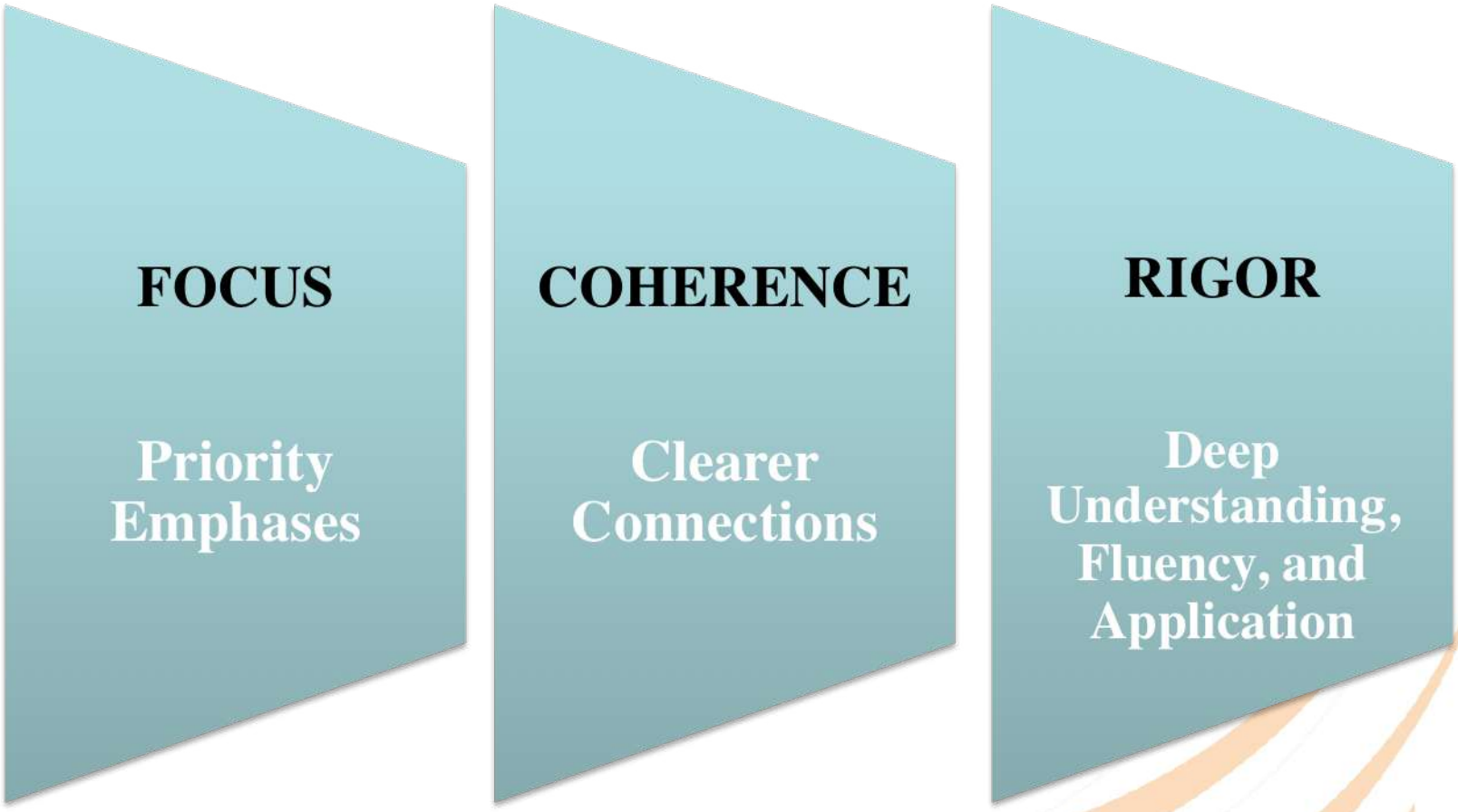
3 Instructional Shifts for Common Core Math



The CCSS Requires Three Shifts in Mathematics

1. **Focus:** Focus strongly where the standards focus.
2. **Coherence**: *Think* across grades, and *link* to major topics
3. **Rigor:** In major topics, pursue *conceptual* **understanding,** procedural skill and *fluency*, and *application*

Shift #1: Focus Strongly where the Standards Focus

- Significantly narrow the scope of content and deepen how time and energy is spent in the math classroom.
- Focus deeply on what is emphasized in the standards, so that students gain strong foundations.

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Focus

- Move away from **"mile wide, inch deep"** curricula identified in TIMSS.
- Learn from international comparisons.
- Teach less, learn more.
- "Less topic coverage can be associated with higher scores on those topics covered because students have more time to master the content that is taught."

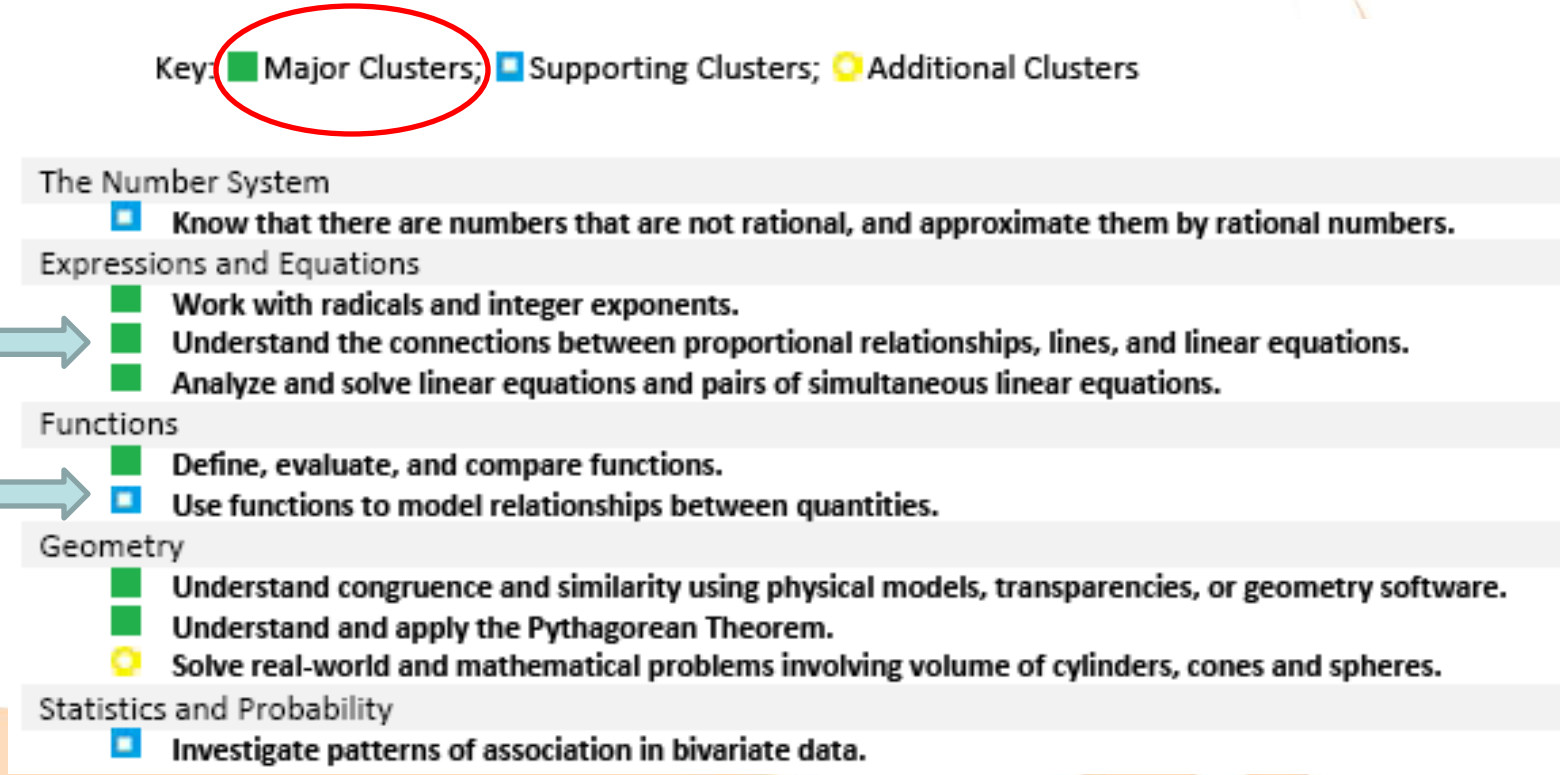
– Ginsburg et al., 2005

Focus Means Fewer Priorities for each Grade

Grade	Priorities in Support of Rich Instruction and Expectations of Fluency and Conceptual Understanding
K-2	Addition and subtraction—concepts, skills, and problem solving
3-5	Multiplication and division of whole numbers and fractions—concepts, skills, and problem solving
6	Ratios and proportional relationships; early expressions and equations
7	Ratios and proportional relationships; arithmetic of rational numbers
8	Linear Algebra
9-12	Modeling of Mathematics in the areas of number, algebra, geometry, and statistics

PARCC: Establishing Focus Clusters

- **<u>ALL standards are taught</u>, but some standards receive more time and attention.** 8th Grade Sample below:



Major Clusters

Supporting Cluster

Shift #2: Coherence: Think Across Grades, and Link to Major Topics Within Grades

- Carefully connect the learning within and across grades so that students can build new understanding on foundations built in previous years.
- Begin to count on solid conceptual understanding of core content and build on it. Each standard is not a new event, but an extension of previous learning.

Coherence: *Think* Across Grades

Example: Fractions

"The **coherence** and sequential nature of mathematics dictate the foundational skills that are necessary for the learning of algebra. The most important foundational skill not presently developed appears to be proficiency with fractions (including decimals, percents, and negative fractions). **The teaching of fractions must be acknowledged as critically important and improved before an increase in student achievement in algebra can be expected**."

Final Report of the National Mathematics Advisory Panel (2008, p. 18)

Alignment in Context: Neighboring Grades and Progressions

One of several staircases to algebra designed in the OA domain.

-

Expressions and Equations 6.EE

3. Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.*

Operations and Algebraic Thinking 5.OA

2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7). Recognize that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*

Operations and Algebraic Thinking 3.OA

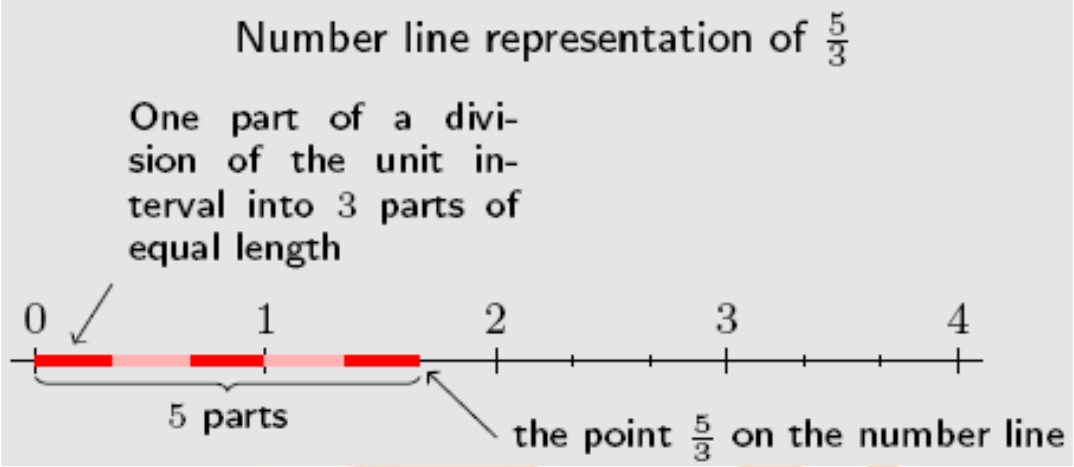
5. Apply properties of operations as strategies to multiply and divide.[2] *Examples: If 6 x 4 = 24 is known, then 4 x 6 = 24 is also known. (Commutative property of multiplication.) 3 x 5 x 2 can be found by 3 x 5 = 15, then 15 x 2 = 30, or by 5 x 2 = 10, then 3 x 10 = 30. (Associative property of multiplication.) Knowing that 8 x 5 = 40 and 8 x 2 = 16, one can find 8 x 7 as 8 x (5 + 2) = (8 x 5) + (8 x 2) = 40 + 16 = 56. (Distributive property.)*

Operations and Algebraic Thinking 1.OA

3. Apply properties of operations as strategies to add and subtract.[3] *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*

The Importance of the CCSS Math Progressions

- Were drafted **before** the standards
- Describe the coherence of key concepts and skills within the grade and from grade to grade
- Illustrate the **depth of expected understanding** in the standards with examples and sidebar models
- Do apply to our CCGPS



Shift #3: Rigor

- The CCSSM require a balance of:
  - Solid conceptual understanding
  - Procedural skill and fluency
  - Application of skills in problem solving situations
- Pursuit of all three requires equal intensity in time, activities, and resources.

Solid Conceptual Understanding

- Teach more than "how to get the answer" and instead support students' ability to access concepts from a number of perspectives
- Students are able to see math as more than a set of mnemonics or discrete procedures
- Conceptual understanding supports the other aspects of rigor (fluency and application)

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Fluency

- The standards require speed and accuracy in calculation.
- Teachers structure class time and/or homework time for students to practice core functions such as operating with integers so that they are more able to understand and manipulate more complex concepts.

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Application

- Students can use appropriate concepts and procedures for application even when not prompted to do so.
- Teachers provide opportunities at all grade levels for students to apply math concepts in "real world" situations, recognizing this means different things in K-5, 6-8, and HS.
- Teachers in content areas outside of math, particularly science, ensure that students are using grade-level-appropriate math to make meaning of and access science content.

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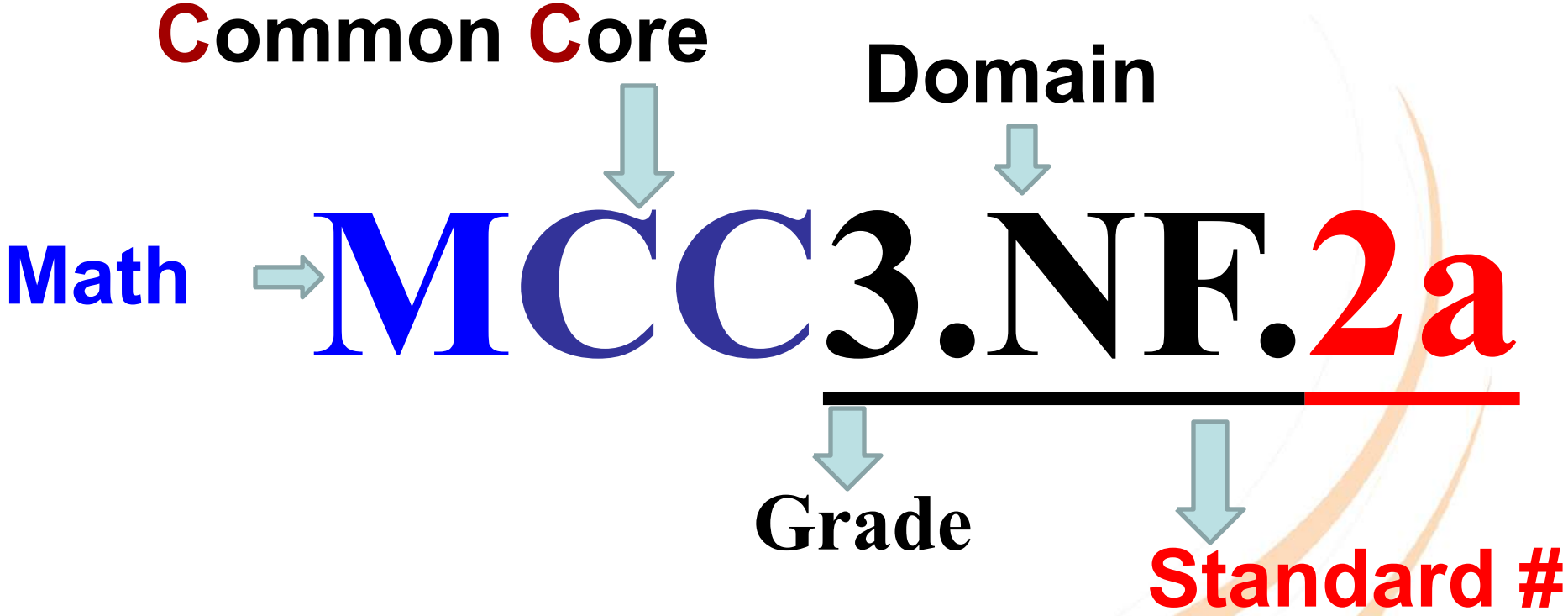
CCGPS Mathematics Standard Codes



Reading the Math CCGPS

Number and Operations – Fractions[21] — **DOMAIN** — 3.NF — **Grade & Domain Abbreviation**

Develop understanding of fractions as numbers. — **CLUSTER HEADING**

MCC3.NF.1 Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$. — **Standard**

- Fractions in the form of 1/b are referred to as unit fractions. See MCC3.G.2 — **Important GaDOE Bullet Notes**

MCC3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram. — **Second Standard in Cluster**

a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line.

b. Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

---

[21] Grade 3 expectations in this domain are limited to fractions with denominators of 2, 3, 4, 6, and 8.

Important Footnotes from Common Core Original/Source Document

Reading the Math CCGPS

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---

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Important Footnotes from Common Core Original/Source Document

CCGPS
Transition Standards

The Number System	7.NS

TRANSITION STANDARDS – TEACH 2012 – 13

MCC6.NS.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, debits/credits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

- Students will understand the meaning of positive and negative rational numbers:

- Are outlined in bold boxes in the CCGPS Teaching Guides.
- Cover content that was in a different grade level in GPS.
- The example above shows a 6th Grade Common Core Standard. It was not taught last year, so it must be taught in 7th Grade in 2012-2013 along with the other 7th Grade CCGPS.
- Click here to see transition standards in other grades.

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8 CCGPS Mathematical Practice Standards

1. **Make sense of problems and persevere in solving them.**
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. **Attend to precision.**
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

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1.  Make sense of problems and persevere in solving them.
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5.  Use appropriate tools strategically
6.  Attend to Precision
7.  Look for and make use of structure
8.  Look for and express regularity in repeated reasoning

Apple Farm Field Trip

- Work problems 1 – 4 and then answer the following questions?

4. What standard(s) are addressed in this task?

MCC1.NBT.4 and MCC2.NBT.7, 9 and MP **1**

We should consider <u>both</u> the Content Standards and the Standards for Mathematical Practice in every lesson.

5. What evidence do you have for selecting these standard(s)?

In Kindergarten, students solve addition and subtraction word problems within 10, 1st grade within 100, and 2nd grade within 1000. Third grade focuses on multiplication and division.

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How does Common Core Georgia Performance Standards Support History/Social Studies Content?

Overview of Standards for History/Social Studies, Science, and Technical Subjects

Reading Standards for History/Social Studies, Science, and Technical Subjects

- Knowledge of domain-specific vocabulary
- Analyze, evaluate, and differentiate primary and secondary sources
- Synthesize quantitative and technical information, including facts presented in maps, timelines, flowcharts, or diagrams

Writing Standards for History/Social Studies, Science, and Technical Subjects

- Write arguments on discipline-specific content and informative/explanatory texts
- Use of data, evidence, and reason to support arguments and claims
- Use of domain-specific vocabulary

Speaking/Listening and Language

Speaking and Listening

- Focus on speaking and listening in a range of settings, both formal and informal – academic, small-group, whole-class discussions
- Emphasize effective communication practices
- Require interpretation and analysis of message as presented through oral, visual, or multimodal formats

Language

- Include conventions for writing and speaking
- Highlight the importance of vocabulary acquisition through a mix of conversation, direct instruction, and reading
- To be addressed in context of reading, writing, speaking and listening

Media and Technology are integrated throughout the standards.

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Comments from experts:

Content-area teachers need to be engaged in a unified approach to literacy instruction in which they acquire proficiency in two to four high-impact strategies/practices that they then use consistently within their areas of instruction."

(Sharon Vaughn, University of Texas at Austin)

REVIEW OF READING
LITERACY IN HISTORY/ SOCIAL STUDIES

Give  top skills that are found in the Reading Standards that students will need to have explicit instruction integrated into the content for the 2012-2013 SY.

- **Key ideas and Details**
- **Craft and Structure**
- **Integration of Knowledge and Ideas**
- **Range of Reading and Level of Text Complexity**

REVIEW OF WRITING
LITERACY IN HISTORY/ SOCIAL STUDIES

Give  top skills that are found in the Writing Standards that students will need to have explicit instruction integrated into the content for the 2012-2013 SY.

- **Key ideas and Details**
- **Craft and Structure**
- **Integration of Knowledge and Ideas**
- **Range of Reading and Level of Text Complexity**

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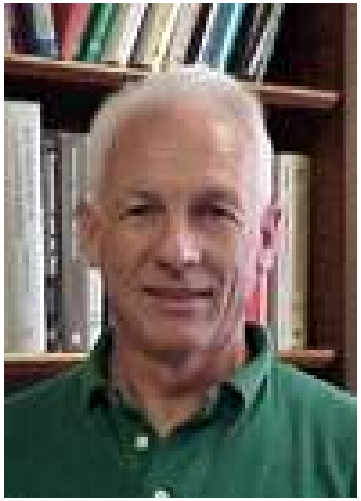
Comments from experts:

What are the most important improvements you would like to see in literacy instruction from content area teachers?



"Comprehension strategies should be taught explicitly through reading and writing activities across the curriculum. All teachers within a grade level should teach a common set of three to four reading comprehension strategies in each content area."

(John Guthrie, University of Maryland)

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Comments from experts:

Active exploration of ideas and interpretations requires teachers to devote significant amounts of class time to substantive discussion and student exploration of meaning."

(Arthur Applebee,
State University of NY at Albany)

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What kind of discussion works best?

Sandora, Beck, & McKeown (1999).

Which of two discussion techniques—Great Books or Questioning the Author—produced the greater impact on middle school students' understanding of complex literature?

Students were in 6th and 7th grade, attending an inner city school. 75% read below the 50th percentile.

One class of about 25 students participated in each discussion technique—with the same teacher.

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What kind of discussion works best?

Students who used the **Questioning the Author** method had stronger outcomes on both story recall and open-ended question tests.

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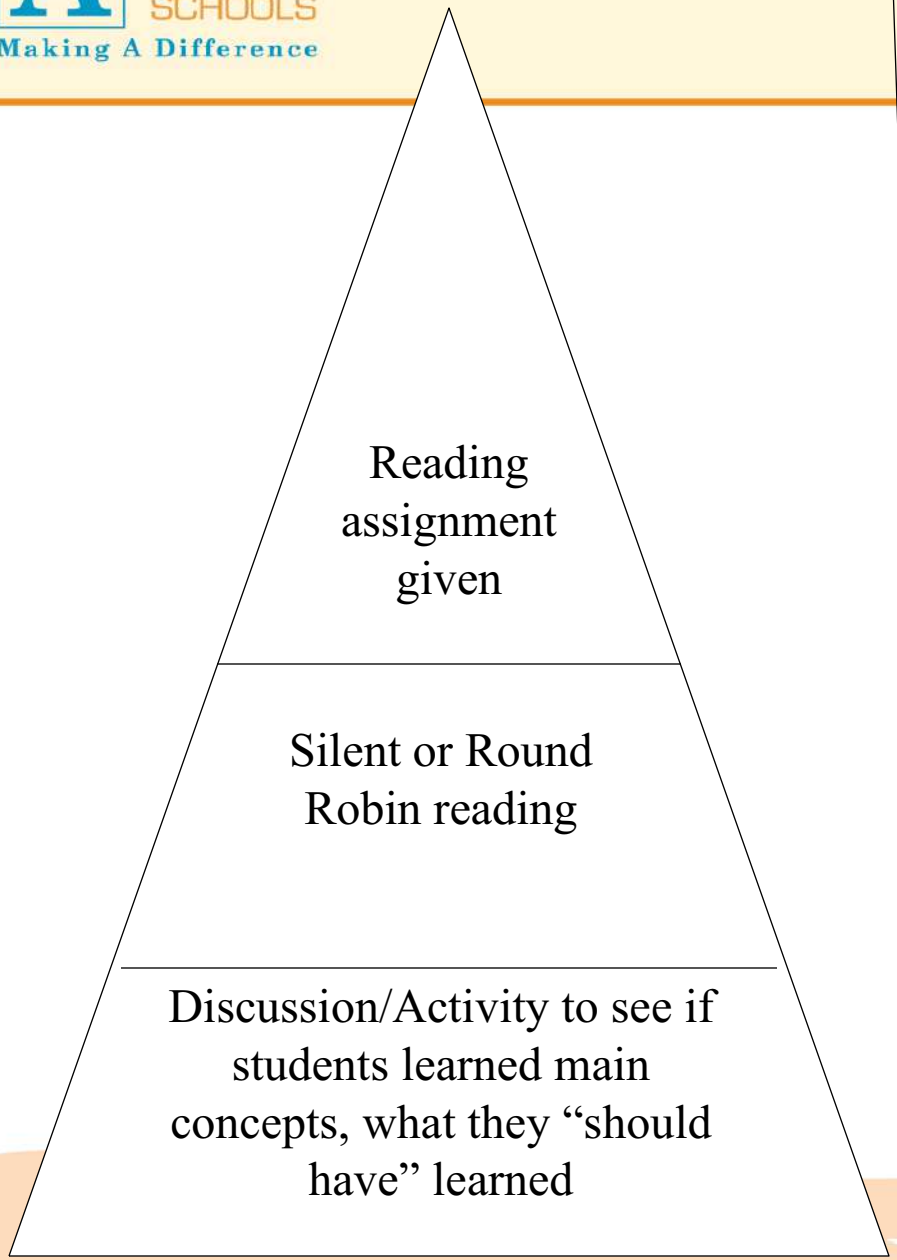
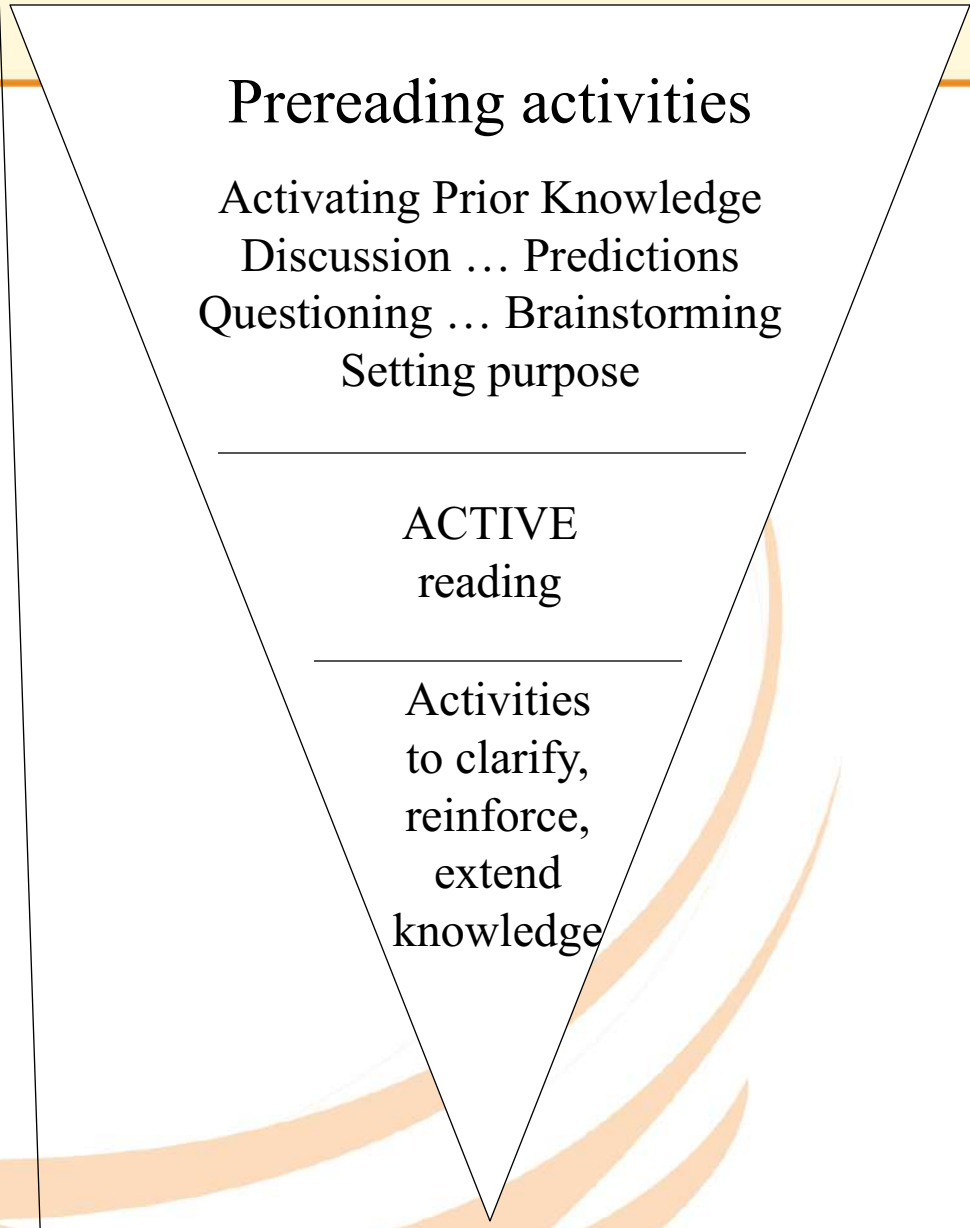
New Format





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Literacy strategies are designed to deepen content understanding and connect to the standards.

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Framework for K-12 Science Education as Preparation for Implementing the NGSS

Adapted from the GE Foundation Developing Futures In Education Conference-Harold Pratt

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Why Do We Need New Standards?

"Science , engineering and technology permeate nearly every facet of modern life, and they also hold the key to meeting many of humanity's most pressing and current and future challenges. Yet too few U.S. workers have strong backgrounds in these fields and many people lack even fundamental knowledge of them. This national trend has created a widespread call for a new approach to K-12 science education in the United States."

From the Executive Summary of the *Framework*.

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I. Vision for Science Education

- "The Framework is designed to help realize a vision for education in the sciences and engineering in which (all) students, over multiple years of school, actively engage in science and engineering practices and apply crosscutting concepts to deepen their understanding of the core ideas in these fields." (pg 10)

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Scientific and Engineering Practices

1. Asking questions and defining problems
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics, information and computer technology
6. Developing explanations and designing solutions
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

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Why Practices are Important

- The Framework considers the practices to be central to science and engineering
- They:
  - Engage students productively in inquiry
  - Support learning process
  - Help students understand aspects of the science and engineering enterprise

Goals for Science Education

Science Education

All students will:

•Understand science is not just a body of knowledge that reflects current understanding of the world; it is also a set of practices used to establish, extend, and refine that knowledge. Both elements—knowledge and practice—are essential.

•Value and use science as a process of obtaining knowledge based upon observable evidence.

CCSS Literacy

All students will gain skills to:

•Communicate effectively using science language and reasoning.

•Use writing as a tool for learning.

•Use writing as a tool to communicate ideas; write for a variety of purposes and audiences.

CCSS Literacy StandardsGeorgia Department of Education 2011

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The Example

Integration Activity – Sample Responses

Reading Standards For Literacy in Science and Technical Subjects	
STANDARDS	**Activities**
Key Ideas and Details	**Key Ideas and Details**
ELACC4R13: Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.	**After reading a passage of informational text on the formation of constellations, relate models to explanations of Earth/moon/sun in day/night cycle, phases of the moon, and seasonal changes on Earth.**
Craft and Structure	**Craft and Structure**
ELACC4R15: Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.	**After reading a passage of informational text on gravity and motion, demonstrate the effect of gravity on the motion of an object.**
Integration of Knowledge and Ideas	**Integration of Knowledge and Ideas**

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Shifts in How Science Should be Taught

- Organize the curriculum around a limited number of ideas.
- Depth and coherence – not breadth
- Core ideas should be revisited in increasing depth and sophistication based on evidence
  - Construction of storyline within courses
  - From grade level to grade level

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Shifts in How Science Should be Taught (cont.)

- Focus on connections
  - Between science disciplines
  - With ELA and Mathematics (CCSS)
  - Instructional materials should involve learners in practices to develop, use and refine scientific ideas – not explain them ***for*** students

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Post-Assessment

Test your knowledge of the Common Core Performance Standards