Beyond Minimum Competencies to Maximized Learning Opportunities:
Virginia Standards of Learning and the Common Core Standards

Standards of Learning

for

Virginia

Public Schools

COMMON CORE

STATE STANDARDS INITIATIVE

PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

Prepared especially for the

Professional Learning Network of Virginia

by Dan Mulligan, Ed. D.

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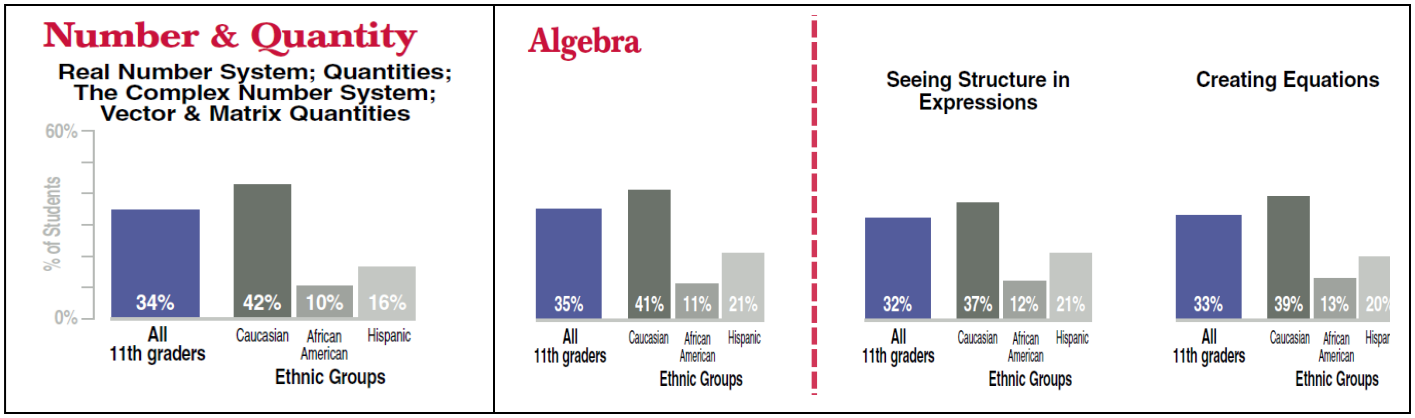
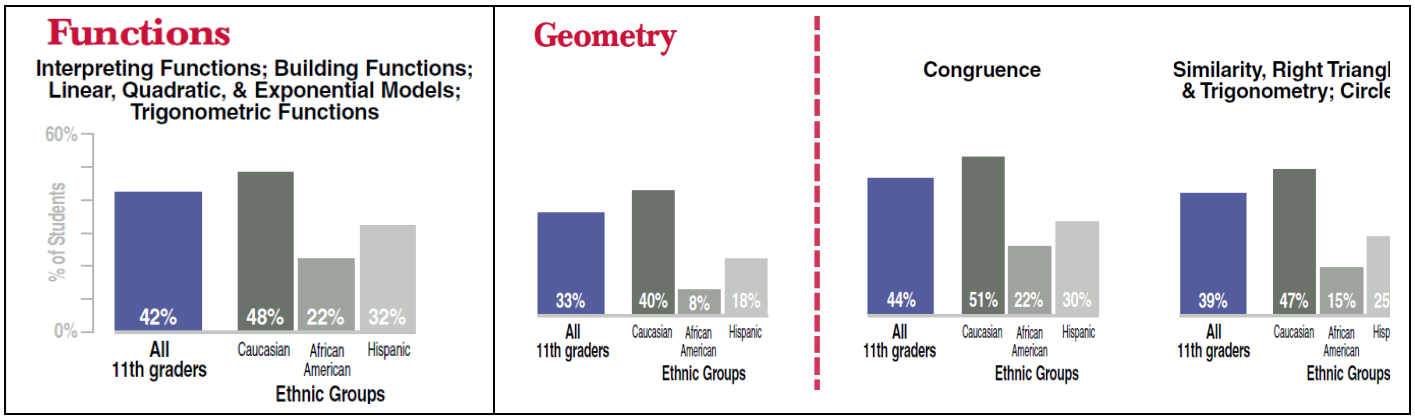
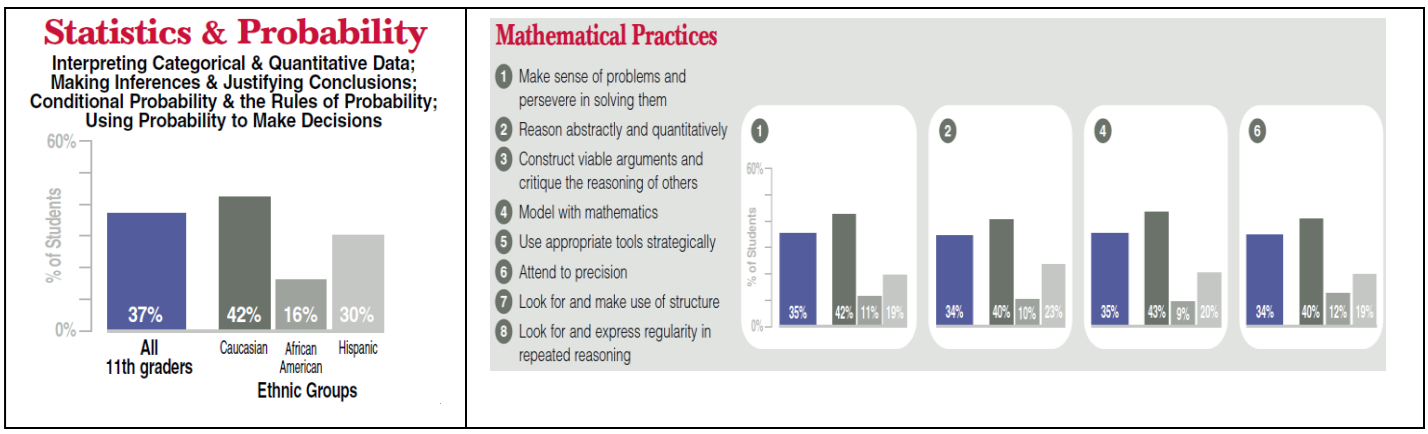
ACT 2010 Report: A First Look at the Common Core and College and Career Readiness

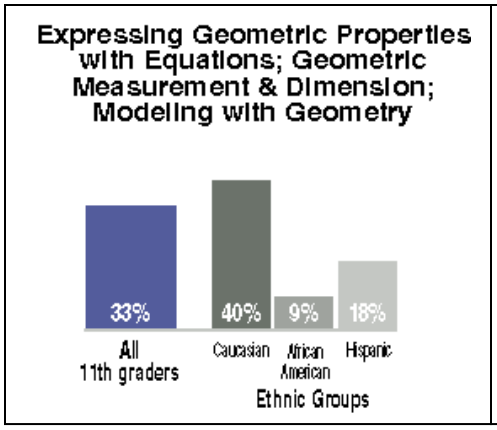
ACT has long defined college and career readiness as the acquisition of the knowledge and skills a student needs to enroll and succeed in credit-bearing, first year courses at a postsecondary institution (such as a two- or four year college, trade school, or technical school) without the need for remediation. ACT's definition of college and career readiness was adopted by the Common Core State Standards Initiative and provides a unifying goal upon which educators and policymakers now must act.

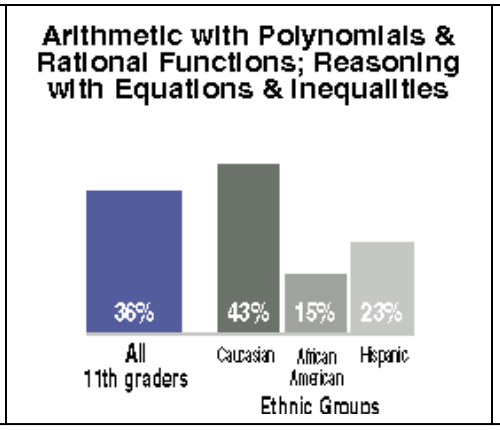
Common Core Mathematics

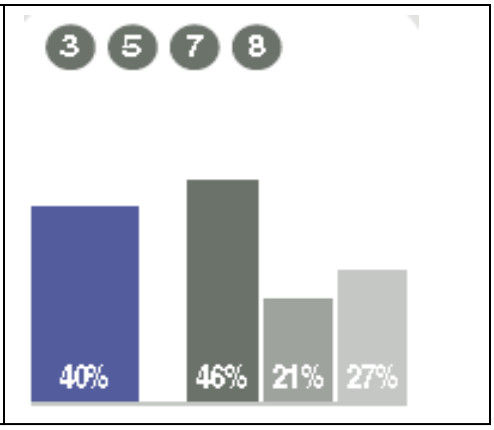










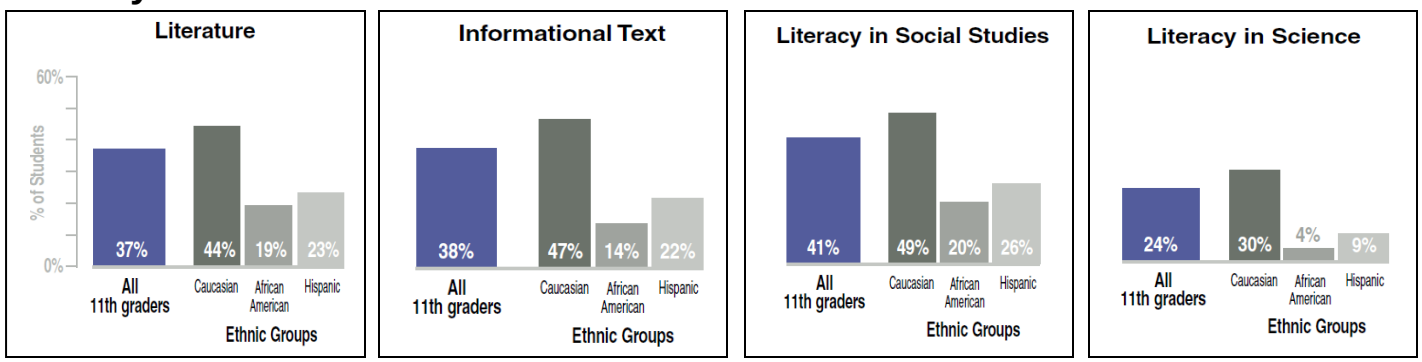


Recommendations based on the ACT Study
(and implications for going *beyond minimum competencies* in Virginia)

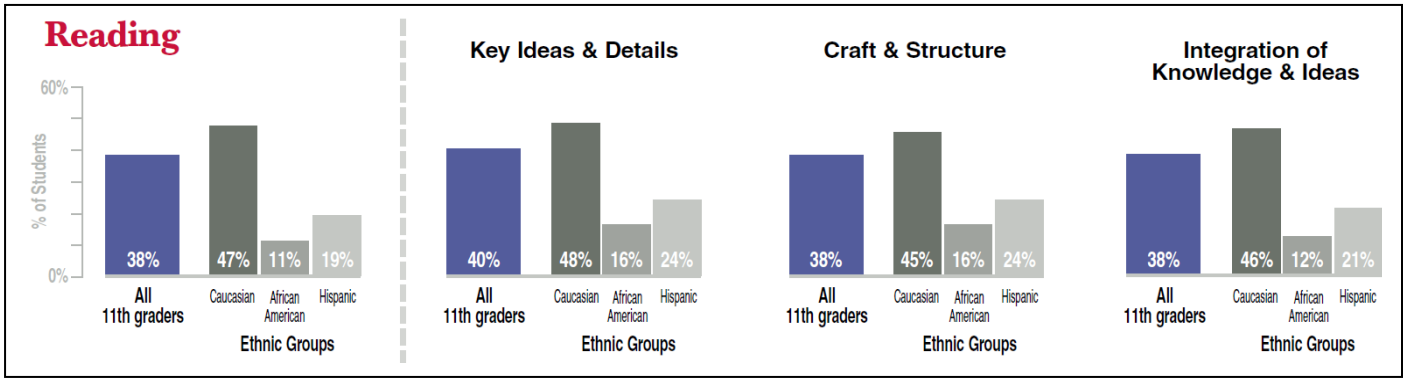
1) **Increased focus is needed on the foundations of mathematics.**
   The low performance by students on Number & Quantity (34%) in the Common Core is of particular concern because these skills are the foundation for success in the other Common Core mathematics conceptual categories (e.g., Algebra, Functions, Modeling, Geometry, and Statistics & Probability). Students need to make *meaning* of numbers, operations, and arithmetic expressions, and to use their understanding to solve problems, reason about mathematics, and explain their thinking. **To increase math performance, states need to ensure K–8 curriculum and instruction require rigorous understanding of the concepts in Number & Quantity from the earliest grades.**
   a) In the early grades, students will benefit from *problem solving in novel contexts* and hands-on experiences with *increasingly sophisticated quantities and their measurement*.
   b) In middle school and high school, teachers should lead students to see connections between Number & Quantity and other Common Core mathematics conceptual categories, particularly Algebra.
2) **Math interventions are needed for students who are falling behind at the earliest grades.**
   Across the board, Hispanic and African American students performed well below their Caucasian counterparts in all Common Core math domains. **States must ensure that teachers and students have the resources necessary to identify struggling math students as early as possible (K–4) so that proper interventions are made.** *Providing teachers and students with adequate opportunities to collect achievement data that function diagnostically*— data collected frequently and from both formative and summative assessments—is crucial to supporting students' learning progressions and for optimal growth to occur.
3) **Greater understanding of mathematical processes and practices is needed.**
4) <u>For each of the Common Core Mathematical Practices standards, only about one-third of students reached the college- and career-ready level.</u> States and districts must ensure that conceptual understanding is emphasized for all students in mathematics. More specifically, students at all grade levels need to be:
   a) working and solving challenging non-routine problems;
   b) explaining methods and justifying conclusions;
   c) predicting and conjecturing about things like unknown numbers, measurements, quantitative relations, the behavior of functions, how well a model fits reality, the effectiveness of different solution methods, and the way probabilistic events occur; and
   d) looking for patterns and structure in places like diagrams, equations, number systems, proofs, problems, tables, graphs, and real-world objects.

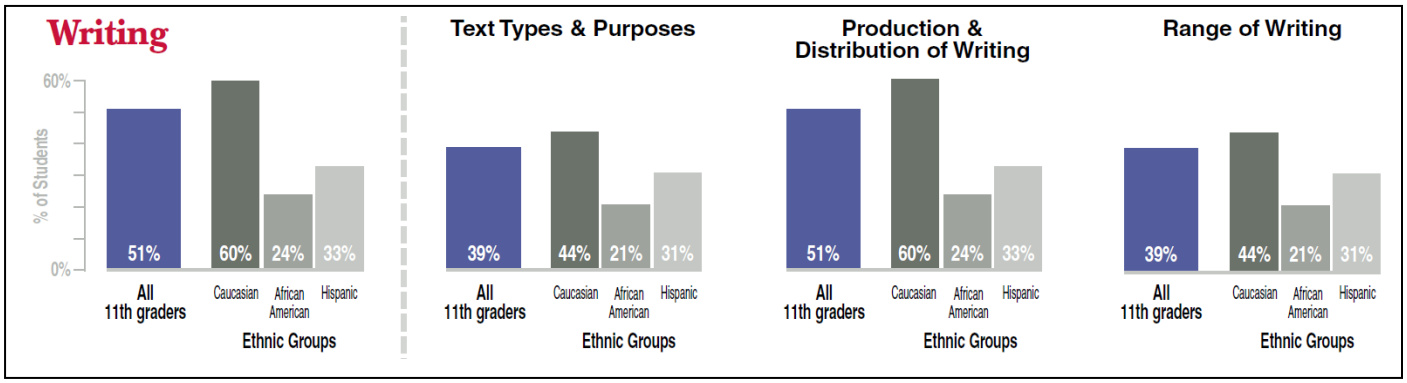
Common Core Language Arts

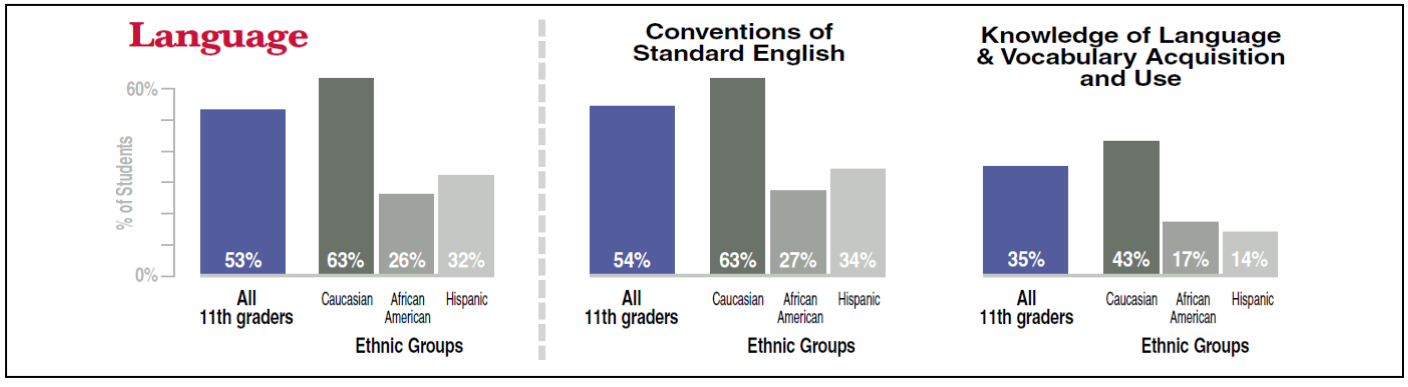
Literacy Scores



English/Language Arts







Recommendations based on the ACT Study
(and implications for going *beyond minimum competencies* in Virginia)

1) **Too few students are able to understand complex text.**
   Relative to the Common Core, only 31% of students are performing at a college- and career ready level with respect to successfully understanding complex text. The Common Core State Standards define a "staircase" of increasing text complexity designed to move all students to college- and career-ready levels of reading by no later than the end of high school. **To help prepare all students for the challenges of reading at the college and career readiness level, states should ensure that students are reading progressively more complex texts as they advance through the grades.**
2) **Increased focus is needed on some key aspects of language.** Two areas of emphasis in the Common Core State Standards for Language are *(1) students' knowledge of language varieties and ability to use language skillfully* and *(2) students' ability to acquire and use a rich vocabulary. Relative to the Common Core*, only 35% of students are performing at college- and career-ready levels with respect to these skills. To help all students develop a sufficient command of these language skills, states should ensure that students gain sufficient understanding of how language varies by context; how to use language effectively for different audiences, purposes, and tasks; and how to gain and use a vocabulary adequate for college and careers.
   a) Students should master the grade-specific standards for Common Core Language Standard 3, which, beginning formally in grade 2 and building throughout the grades, **focuses on such areas as recognizing differences between formal and informal English and between spoken and written English, using language precisely and concisely, and maintaining consistency in style and tone.**
   b) Students would also benefit from greater and more systematic attention to vocabulary development. This can include direct vocabulary instruction and a steadily increasing emphasis on helping students acquire vocabulary through reading. Particularly important is that students gain what the Standards refer to as general academic vocabulary: words and phrases that are often encountered in written texts in a variety of subjects but that are rarely heard in spoken language.
3) **Content-area reading needs strengthening.** *Students struggle when reading texts in content areas, especially in science, where only 24% of students are able to work with science materials at a level that would make them college and career ready*. To help all students achieve sufficient literacy skills in history/social studies and in science and technical subjects, as well as in English language arts, states must **ensure that teachers in these subject areas use their unique content knowledge to foster students' ability to read, write, and communicate in the various disciplines.**
   a) Specifically, **English language arts teachers in middle and upper grades should incorporate a particular type of informational text—literary nonfiction—into the traditional curriculum of stories, dramas, and poems.**
   b) Teachers in other subject areas should use their own subject-area expertise to help students learn to read, write, and communicate effectively in their specific field.
   c) The Common Core State Standards in reading are explicitly modeled on the idea of *shared responsibility for students' literacy development*. States and districts should therefore prepare middle and high school content-area teachers for this role by providing professional development opportunities that build the reading instruction capacity of content-area specialists.

Analysis of Recommendations based on the ACT Study
(and implications for going *beyond minimum competencies* in Virginia)

Opportunities for my Division to go *Beyond Minimum Competencies* as expressed by the **Virginia Mathematics Standards of Learning**

Mathematics Common Core skills we currently do very well –
Mathematics Common Core skills that present opportunities for growth –
Summary of my thoughts –

Opportunities for my Division to go *Beyond Minimum Competencies* as expressed by the **Virginia English Standards of Learning**

English Common Core skills we currently do very well –
English Common Core skills that present opportunities for growth –
Summary of my thoughts –

Recommendations for Instructional Strategies and Interventions

1) Create a school culture of high expectations.
2) Use data to create individualized responses to students' needs.
3) Foster an atmosphere of support and collaboration among teachers.

Recommendations for Policymakers

4) Recognize that adoption of "fewer, clearer, higher" standards is a significant shift in expectations.
5) The shift in expectations has very real implications for education monitoring and accountability systems.
6) Federal programs need to have a greater focus on college and career readiness.
7) Ensuring sufficient public understanding of the Common Core State Standards is critically important.
8) Increase the percentage who are college and career ready is challenging, but possible.
9) To accelerate improvement, states and districts should make concerted efforts now to ensure full and meaningful implementation of the Common Core State Standards.

Why bother:

The ACT College Readiness Benchmarks are the minimum scores required on the ACT subject tests for high school students to have approximately a 75 percent chance of earning a grade of C or better, or approximately a 50 percent chance of earning a grade of B or better, in selected courses commonly taken by first-year college students: English Composition; College Algebra; social sciences courses such as History, Psychology, Sociology, Political Science, or Economics; and Biology.

The Benchmark scores on the ACT tests are 18 in English, 22 in Mathematics, 21 in Reading, and 24 in Science; on the ACT Writing Test, a score of 7 or above indicates readiness for college-level writing assignments.

MATHEMATICS STANDARDS

Virginia's SOL

- Kindergarten
- Grade 1 – 8
- Algebra I
- Geometry
- Algebra II
- Trigonometry
- Algebra II and Trigonometry
- Algebra, Functions, and Data Analysis
- Computer Math
- Probability and Statistics
- Discrete Math
- Mathematical Analysis

Common Core Standards

- Kindergarten
- Grade 1 – 8
- Conceptual Categories for High School
  - Number and Quantity
  - Algebra
  - Functions
  - Modeling
  - Statistics and Probability

PROCESS SKILLS

Virginia's SOL

- Problem Solving
- Communication
- Reasoning
- Connections
- Representations

Common Core Standards

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and express regularity in repeated reasoning.
- Look for and make use of structure.

Teacher Name Grade Topic Date

Marzano's Instructional Methods	Student/Teacher Reflection (questions on reverse)		21st Century Skills	Characteristics of an Effective Math Classroom	Observed
Identifying Similarities and Differences Generating and Testing Hypothesis Homework and Practice	Thinking Mathematically	More than one method	Problem Solving	There is more than one way to solve a problem.	
		Connections	Analytical Thinking & Communicating	Integration of reading, math, and communication Homework is limited and connected to the day's learning.	
		How?	Problem Solving	Focus is on conceptual understanding rather than on procedural drill.	
		Justify why	Finding and Evaluating Information	Students are confident in their thinking.	
		Conjecture and generalizations	Analytical Thinking	There is more than one way to solve a problem.	
		Disequilibrium	Problem Solving	Students can admit something is hard. The teacher allows students to struggle.	
		New learning – "Aha!"	Finding and Evaluating Information	Math is rigorous for the individual student.	
		I wonder… What if…?	Analytical Thinking	There is more than one way to solve a problem.	
		Mistakes start new learning	Problem Solving & Finding and Evaluating Information	Mistakes are valued.	
		Multiple representations	Problem Solving & Communicating	There is more than one way to solve a problem.	
Nonlinguistic Representations Cues, Questions, and Advance Organizers Summarizing	Presenting Mathematical Thinking	Clear and complete	Communicating	Students use markers or pens to record their mathematical thinking.	
		Math that fits	Problem Solving	Children are using whatever tools they need to solve the problem.	
		Valid reasoning, language, and/or symbols	Finding and Evaluating Information	Questioning by the teacher moves students forward or probes their thinking. Problems are accessible through flexible numbers and wording.	
		Math ideas we learn in class	Finding and Evaluating Information	Teachers know where students are and where they want them to go. Kids are working from their level of understanding.	
		Accurate	Problem Solving	Solutions are expected to be mathematically correct.	

and Note Taking		Organized	Analytical Thinking	Thinking is recorded. Math journals are a common tool.	
Cooperative Learning Setting Objectives and Providing Feedback	Seeking Mathematical Understanding	Listen to understand	Communicating & Collaborating	All students are actively involved. There's a place for large group discussion.	
		Volunteer ideas	Communicating & Collaborating	Students discuss in small groups.	
		Ask genuine questions	Communicating & Collaborating	The teacher confers individually with students. All students are actively involved.	
		Share my challenges	Collaborating & Communicating	Students discuss their thinking.	
		Think about my thinking	Analytical Thinking		
		Honor private think time	Analytical Thinking	There are routines and procedures that allow the work to happen. Students are expected to work independently at times. Teacher keeps quiet except to press for understanding.	
		Respect my own and others' right to solve problems	Collaborating	Patience, understanding, and respect are evident. Every child's thinking is honored.	

Cognitively Guided Instruction is a research-based method of teaching mathematics that embraces/encompasses the following components:

- *Problem solving in meaningful contexts with flexible solution strategies. These strategies must make sense to the students!*
- *Building mathematical understanding through questioning based on individual student prior knowledge,*
- *Integration of mathematical concepts, and*
- *Communicating learning to others.*

GREEN FLAGS ☺	COMMENTS
<u>Thinking Mathematically</u> • Students using **more than one method** to solve problems • Students making **connections** between math ideas, to other people's ideas, to other subjects, and/or to everyday life. • Students showing/explaining **how** they think and reason. • Students justifying **why** ideas do or don't work. • Students making and testing mathematical **conjectures** and **generalizations**. • Student celebrating their **AHA**!'s and recognizing their **disequilibrium**. • Students extending problems by investigating **What if….** and **I wonder….** ideas. • Students using **mistakes to start new learning**. • Students using **multiple representations**—models, diagrams, graphs, numbers, words, math symbols, and situations from everyday life—to make sense of math ideas and problems.	
<u>Presenting Mathematical Thinking</u> • Students' mathematical ideas and reasoning are **clear and complete**. • Students using **math that fits** the problem or situation. • Students using **valid mathematical reasoning, language, and/or symbols**. • Students **using math ideas they learn in class**. • Students working **accurately**. • Students **organizing** their thoughts and work.	
<u>Seeking Mathematical Understanding</u> • Students **listening to understand** others' thinking. • Students **volunteering their ideas** in group discussions. • Students **asking *genuine* questions** (of their classmates, their teacher, and themselves) about how and why ideas work and whether they work sometimes, always, or never. • Students sharing ideas that **challenge** their thinking and understanding. • Students **thinking about their thinking** and ways their understanding is developing. • Students honoring their own and others' right to **private think time** before discussing ideas. • Students **respecting** their own and others' right to solve problems.	

RED FLAGS ☹

• Teacher doing all/most of the talking. • Lots of problems on a worksheet. • Students encouraged/required to use a specific algorithm. • No tools available for student use. • Only one "right" method accepted.	

Key Points about the Common Core Math Standards

- The K-5 standards provide students with a *solid foundation in whole numbers, addition, subtraction, multiplication, division, fractions and decimals*—which help young students build the foundation to successfully apply more demanding math concepts and procedures, and move into applications.
- In kindergarten, the standards follow successful international models and recommendations from the National Research Council's Early Math Panel report, by focusing kindergarten work on the number core: learning how numbers correspond to quantities, and learning how to put numbers together and take them apart (the beginnings of addition and subtraction).
- The K-5 standards build on the best state standards to provide detailed guidance to teachers on how to navigate their way through knotty topics such as *fractions, negative numbers, and geometry*, and do so by maintaining a continuous progression from grade to grade.
- The standards stress not only procedural skill but also conceptual understanding, to make sure students are learning and absorbing the critical information they need to succeed at higher levels - rather than the current practices by which many students learn enough to get by on the next test, but forget it shortly thereafter, only to review again the following year.
- Having built a strong foundation K-5, students can do hands on learning in geometry, algebra and probability and statistics. Students who have completed 7th grade and mastered the content and skills through the 7th grade will be *well-prepared for algebra* in grade 8.
- The middle school standards are robust and provide a coherent and rich *preparation for high school mathematics*.
- The high school standards call on students to *practice applying mathematical ways of thinking to real world issues and challenges*; they prepare students to think and reason mathematically.
- The high school standards set a *rigorous definition of college and career readiness*, by helping students develop a depth of understanding and ability to apply mathematics to novel situations, as college students and employees regularly do.
- The high school standards *emphasize mathematical modeling*, the use of mathematics and statistics to analyze empirical situations, understand them better, and improve decisions. For example, the draft standards state: "Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. It is the process of choosing and using appropriate mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions. Quantities and their relationships in physical, economic, public policy, social and everyday situations can be modeled using mathematical and statistical methods. When making mathematical models, technology is valuable for varying assumptions, exploring consequences, and comparing predictions with data."

Sample Common Core – Key Concepts:

Grade: K

Basic Facts
Cardinality (1-to-1 correspondence)
Counting
Data - Organize & Sort
Equations & Expressions - Writing & Solving
Measurement - Explore Measureable Attributes
Place Value
Shapes (2-D) - Explore, Compose, & Compare
Shapes (2-D) - Name & Classify by their Properties
Shapes (3-D) - Explore, Compose, & Compare
Shapes (3-D) - Name & Describe
Skip Counting
Spatial Positions
Whole Numbers - Addition & Subtraction
Whole Numbers - Comparing & Ordering
Whole Numbers - Reading & Writing

Grade: 1

Basic Facts
Cardinality (1-to-1 correspondence)
Counting
Data - Describe, Interpret & Comparisons
Data - Organize & Sort
Equations & Expressions - Writing & Solving
Fractions - Meaning of
Measurement - Measuring Length
Place Value
Properties of Operations
Shapes (2-D) - Explore, Compose, & Compare
Shapes (2-D) - Name & Classify by their Properties
Shapes (3-D) - Explore, Compose, & Compare
Time
Whole Numbers - Adding & Subtracting with 10s
Whole Numbers - Addition & Subtraction
Whole Numbers - Comparing & Ordering
Whole Numbers - Reading & Writing

Grade: 4

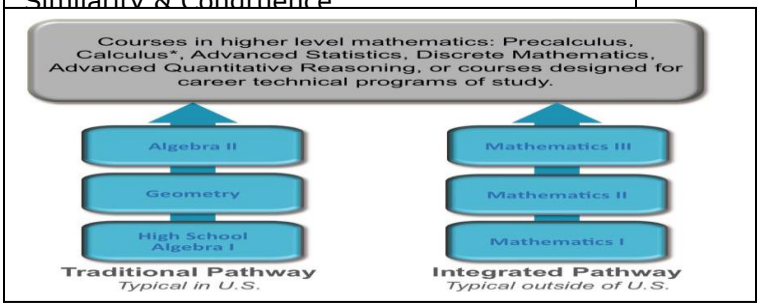
Angles
Area
Data - Describe, Interpret & Comparisons
Data - Graphing
Decimals - Comparing & Ordering
Decimals - Meaning of
Equations & Expressions - Writing & Solving
Factors / Multiples
Fractions - Comparing & Ordering
Fractions - Equivalences
Fractions - Operations with
Line Types
Mass
Measurement - Conversions
Measurement - Measuring Length
Money
Patterns
Perimeter
Place Value
Prime / Composite
Properties of Operations
Shapes (2-D) - Name & Classify by their Properties
Standard Algorithms
Symmetry
Time
Volume / Capacity
Whole Numbers - Addition & Subtraction
Whole Numbers - Comparing & Ordering
Whole Numbers - Multiplication & Division
Whole Numbers - Multiplying & Dividing with 10s
Whole Numbers - Reading & Writing
Whole Numbers - Rounding & Estimation

Grade: 6

Absolute Value
Area
Coordinate Geometry - Plotting Points
Data - Collecting & Gathering
Data - Describe, Interpret & Comparisons
Data - Graphing
Data - Measures of Center & Variability
Decimals - Operations with
Equations & Expressions - Writing & Solving
Exponents & Square/Cube Roots
Factors / Multiples
Fractions - Operations with
Inequalities - Graphing & Solving
Measurement - Conversions
Order of Operations
Percents - Operations with
Properties of Operations
Rates & Ratios - Understanding
Rates & Ratios - Unit Rate
Rates & Ratios - Writing, Solving, & Graphing
Rational / Irrational
Standard Algorithms
Surface Area
Volume / Capacity

Grade: 8

Angles
Data - Graphing & Interpreting Bivariate Data
Exponents & Square/Cube Roots
Functions - Understanding, linear v. nonlinear
Geometric Transformations & Dilations
Linear Equations - Equation of a Line
Linear Equations - Graphing
Linear Equations - Slope & Rate
Linear Equations - Solving
Pythagorean Theorem
Rational / Irrational
Rational Numbers - Converting Repeating Decimals to Fractions
Rational Numbers - Estimation, Comparing, & Ordering
Scientific Notation & Operations with it
Similarity & Congruence



High School - The Pathways

Four model course pathways are included in the Common Core:

1. An approach typically seen in the U.S. (Traditional) that consists of two algebra courses and a geometry course, with some data, probability and statistics included in each course;
2. An approach typically seen internationally (Integrated) that consists of a sequence of three courses, each of which includes number, algebra, geometry, probability and statistics;
3. A “compacted” version of the Traditional pathway where no content is omitted, in which students would complete the content of 7th grade, 8th grade, and the High School Algebra I course in grades 7 (Compacted 7th Grade) and 8 (8th Grade Algebra I), which will enable them to reach Calculus or other college level courses by their senior year. While the K-7 CCSS effectively prepare students for algebra in 8th grade, some standards from 8th grade have been placed in the Accelerated 7th Grade course to make the 8th Grade Algebra I course more manageable;
4. A “compacted” version of the Integrated pathway where no content is omitted, in which students would complete the content of 7th grade, 8th grade, and the Mathematics I course in grades 7 (Compacted 7th Grade) and 8 (8th Grade Mathematics I), which will enable them to reach Calculus or other college level courses by their senior year. While the K-7 CCSS effectively prepare students for algebra in 8th grade, some standards from 8th grade have been placed in the Accelerated 7th Grade course to make the 8th Grade Mathematics I course more manageable;
5. Ultimately, all of these pathways are intended to significantly increase the coherence of high school mathematics.

Sample SOL - Key Concepts

Grade K

The kindergarten standards place emphasis on developing the concept of number by counting; combining, sorting, and comparing sets of objects; recognizing and describing simple repeating patterns; and recognizing shapes and sizes of figures and objects. Students will investigate nonstandard measurement, collect data, and create graphs. The idea of fractions will be introduced.

Grade K

The first-grade standards place emphasis on counting, sorting, and comparing sets of up to 100 objects; recognizing and describing simple repeating and growing patterns; and tracing, describing, and sorting plane geometric figures. Students' understanding of number will be expanded through learning and applying the basic addition facts through the nines table and the corresponding subtraction facts; using nonstandard units to measure; and organizing and interpreting data. Fractional concepts will be expanded.

Grade 4

The fourth-grade standards place emphasis on multiplication and division with whole numbers and solving problems involving addition and subtraction of fractions and decimals by finding common multiples and factors. Students will be fluent in the basic multiplication facts through the twelves table and the corresponding division facts as they become proficient in multiplying larger numbers. Students also will refine their estimation skills for computations and measurements. Students will identify and describe representations of points, lines, line segments, rays, and angles, including endpoints and vertices. Concrete materials and two-dimensional representations will be used to solve problems involving perimeter, patterns, probability, and equivalence of fractions and decimals. Students will recognize images of figures resulting from geometric transformations, such as reflection, translation, and rotation. Students will investigate and describe the associative property for addition and multiplication.

Grade 6

The sixth-grade standards are a transition from the emphasis placed on whole number arithmetic in the elementary grades to foundations of algebra. The standards emphasize rational numbers. Students will use ratios to compare data sets; recognize decimals, fractions, and percents as ratios; solve single-step and multistep problems, using rational numbers; and gain a foundation in the understanding of integers. Students will solve linear equations and use algebraic terminology. Students will solve problems involving area, perimeter, and surface area, work with π (pi), and focus on the relationships among the properties of quadrilaterals. In addition, students will focus on applications of probability and statistics.

Grade 8

The eighth-grade standards are intended to serve two purposes. First, the standards contain content that reviews or extends concepts and skills learned in previous grades. Second, they contain new content that prepares students for more abstract concepts in algebra and geometry. The eighth-grade standards provide students additional instruction and time to acquire the concepts and skills necessary for success in Algebra I. Students will gain proficiency in computation with rational numbers and will use proportions to solve a variety of problems. New concepts include solving multistep equations and inequalities, graphing linear equations, visualizing three-dimensional shapes represented in two-dimensional drawings, and applying transformations to geometric shapes in the coordinate plane. Students will verify and apply the Pythagorean Theorem and represent relations and functions, using tables, graphs, and rules. The eighth-grade standards provide a more solid foundation in Algebra I for those students not ready for Algebra I in grade eight.

Comparison of the Common Core and SOL		
Grade	**Similarities**	**Differences**

LANGUAGE ARTS and LITERACY STANDARDS

Virginia's SOL
English

- Kindergarten
- Grade 1 – 12

Common Core
English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

- Kindergarten
- Grade 1 – 8
- Grade 9 – 10
- Grade 11 – 12

Common Core Reading Standards:

Literature and Informational Text (K – 5)

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

Foundational Skills (K – 5)

- Print Concepts (K, 1)
- Phonological Awareness (K, 1)
- Phonics and Word Recognition (K, 1, 2, 3, 4, 5))
- Fluency (K, 1, 2, 3, 4, 5)

Writing

- Text Types and Purposes
- Production and Distribution of Writing

Reading

- Key Ideas and Details
- Craft and Structure
- Integration of Knowledge and Ideas

Literacy

- Literature
- Informational Text
- Social Studies
- Science
- Technical Subjects

Language

- Conventions of Standard English
- Knowledge of Language and Vocabulary Acquisition And Use

Language Arts and Literacy Common Core - Key Concepts

Grade levels for K–8; grade bands for 9–10 and 11–12

The Standards use individual grade levels in kindergarten through grade 8 to provide useful specificity; the Standards use two-year bands in grades 9–12 to allow schools, districts, and states flexibility in high school course design.

A focus on results rather than means

By emphasizing required achievements, the Standards leave room for teachers, curriculum developers, and states to determine how those goals should be reached and what additional topics should be addressed. Thus, the Standards do not mandate such things as a particular writing process or the full range of metacognitive strategies that students may need to monitor and direct their thinking and learning. Teachers are thus free to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for meeting the goals set out in the Standards.

An integrated model of literacy

Although the Standards are divided into Reading, Writing, Speaking and Listening, and Language strands for conceptual clarity, the processes of communication are closely connected, as reflected throughout this document. For example, Writing standard 9 requires that students be able to write about what they read. Likewise, Speaking and Listening standard 4 sets the expectation that students will share findings from their research.

Shared responsibility for students' literacy development

The Standards insist that instruction in reading, writing, speaking, listening, and language be a shared responsibility within the school. The K–5 standards include expectations for reading, writing, speaking, listening, and language applicable to a range of subjects, including but not limited to ELA. The grades 6–12 standards are divided into two sections, one for ELA and the other for history/social studies, science, and technical subjects. This division reflects the unique, time-honored place of ELA teachers in developing students' literacy skills while at the same time recognizing that teachers in other areas must have a role in this development as well. Part of the motivation behind the interdisciplinary approach to literacy promulgated by the Standards is extensive research establishing the need for college and career ready students to be proficient in reading complex informational text independently in a variety of content areas. Most of the required reading in college and workforce training programs is informational in structure and challenging in content; postsecondary education programs typically provide students with both a higher volume of such reading than is generally required in K–12 schools and comparatively little scaffolding. The Standards are not alone in calling for a special emphasis on informational text. The 2009 reading framework of the National Assessment of Educational Progress (NAEP) requires a high and increasing proportion of informational text on its assessment as students advance through the grades.

The Standards' Grade-Specific Text Complexity Demands

As illustrated in figure 4, text complexity in the Standards is defined in grade bands: grades 2–3, 4–5, 6–8, 9–10, and 11–CCR.[5] Students in the first year(s) of a given band are expected by the end of the year to read and comprehend proficiently within the band, with scaffolding as needed at the high end of the range. Students in the last year of a band are expected by the end of the year to read and comprehend independently and proficiently within the band.

Figure 4: The Progression of Reading Standard 10

Grade(s)	Reading Standard 10 (individual text types omitted)
K	Actively engage in group reading activities with purpose and understanding.
1	With prompting and support, read prose and poetry [informational texts] of appropriate complexity for grade 1.
2	By the end of the year, read and comprehend literature [informational texts] in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
3	By the end of the year, read and comprehend literature [informational texts] at the high end of the grades 2–3 text complexity band independently and proficiently.
4	By the end of the year, read and comprehend literature [informational texts] in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.
5	By the end of the year, read and comprehend literature [informational texts] at the high end of the grades 4–5 text complexity band independently and proficiently.
6	By the end of the year, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.
7	By the end of the year, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.
8	By the end of the year, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] at the high end of the grades 6–8 text complexity band independently and proficiently.
9–10	By the end of grade 9, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] at the high end of the grades 9–10 text complexity band independently and proficiently.
11–12	By the end of grade 11, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] at the high end of the grades 11–CCR text complexity band independently and proficiently.

Sample Performance Tasks for Informational Texts: History/Social Studies & Science, Mathematics, and Technical Subjects

- Students analyze the governmental structure of the United States and *support* their *analysis* by *citing specific textual evidence* from *primary sources* such as the Preamble and First Amendment of the U.S. Constitution as well as secondary sources such as Linda R. Monk's *Words We Live By: Your Annotated Guide to the Constitution*. [RH.6–8.1]

- Students evaluate Jim Murphy's *The Great Fire* to *identify* which *aspects of* the *text* (e.g., *loaded language* and the *inclusion of particular facts*) *reveal* his purpose; presenting Chicago as a city that was "ready to burn." [RH.6–8.6]

- Students *describe how* Russell Freedman in his book *Freedom Walkers: The Story of the Montgomery Bus Boycott* integrates and *presents information* both *sequentially* and *causally* to explain how the civil rights movement began. [RH.6–8.5]

- Students *integrate* the *quantitative or technical information expressed* in the *text* of David Macaulay's *Cathedral: The Story of Its Construction* with the information conveyed by the *diagrams* and *models* Macaulay *provides*, developing a deeper understanding of Gothic architecture. [RST.6–8.7]

- Students construct a holistic picture of the history of Manhattan by *comparing and contrasting the information gained from* Donald Mackay's *The Building of Manhattan* with the *multimedia sources* available on the "Manhattan on the Web" portal hosted by the New York Public Library (http://legacy.www.nypl.org/branch/manhattan/index2.cfm?Trg=1&d1=865). [RST.6–8.9]

- Students learn about fractal geometry by reading Ivars Peterson and Nancy Henderson's *Math Trek: Adventures in the Math Zone* and then generate their own fractal geometric structure by *following the multistep procedure* for creating a Koch's curve. [RST.6–8.3]

Reading Standards for Literacy in History/Social Studies 6–12

RH

The standards below begin at grade 6; standards for K–5 reading in history/social studies, science, and technical subjects are integrated into the K–5 Reading standards. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of primary and secondary sources.	1. Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.	1. Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.	2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.	2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).	3. Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.	3. Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.	4. Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social studies.	4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
5. Describe how a text presents information (e.g., sequentially, comparatively, causally).	5. Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.	5. Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
6. Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).	6. Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.	6. Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
Integration of Knowledge and Ideas		
7. Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.	7. Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.	7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
8. Distinguish among fact, opinion, and reasoned judgment in a text.	8. Assess the extent to which the reasoning and evidence in a text support the author's claims.	8. Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
9. Analyze the relationship between a primary and secondary source on the same topic.	9. Compare and contrast treatments of the same topic in several primary and secondary sources.	9. Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
Range of Reading and Level of Text Complexity		
10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6–8 text complexity band independently and proficiently.	10. By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.	10. By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.

Reading Standards for Literacy in Science and Technical Subjects 6–12

RST

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of science and technical texts.	1. Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	2. Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.	2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.	3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
Craft and Structure		
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*.	4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9–10 texts and topics*.	4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11–12 texts and topics*.
5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.	5. Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., *force, friction, reaction force, energy*).	5. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.	6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
Integration of Knowledge and Ideas		
7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).	7. Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.	7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	8. Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.	8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.	9. Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.	9. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
Range of Reading and Level of Text Complexity		
10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.	10. By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.	10. By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12

WHST

The standards below begin at grade 6; standards for K–5 writing in history/social studies, science, and technical subjects are integrated into the K–5 Writing standards. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Text Types and Purposes		
1. Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.	1. Write arguments focused on *discipline-specific content*. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.	1. Write arguments focused on *discipline-specific content*. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section

Assessment Systems in the Common Core

Assessment and the Common Core

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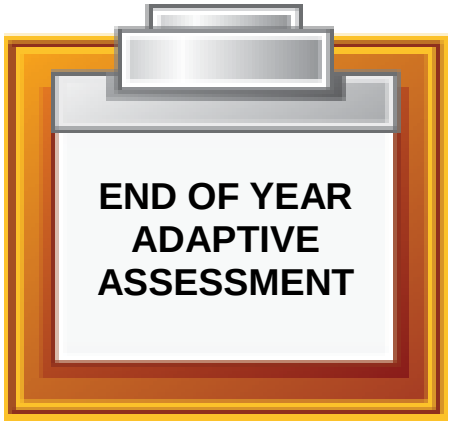
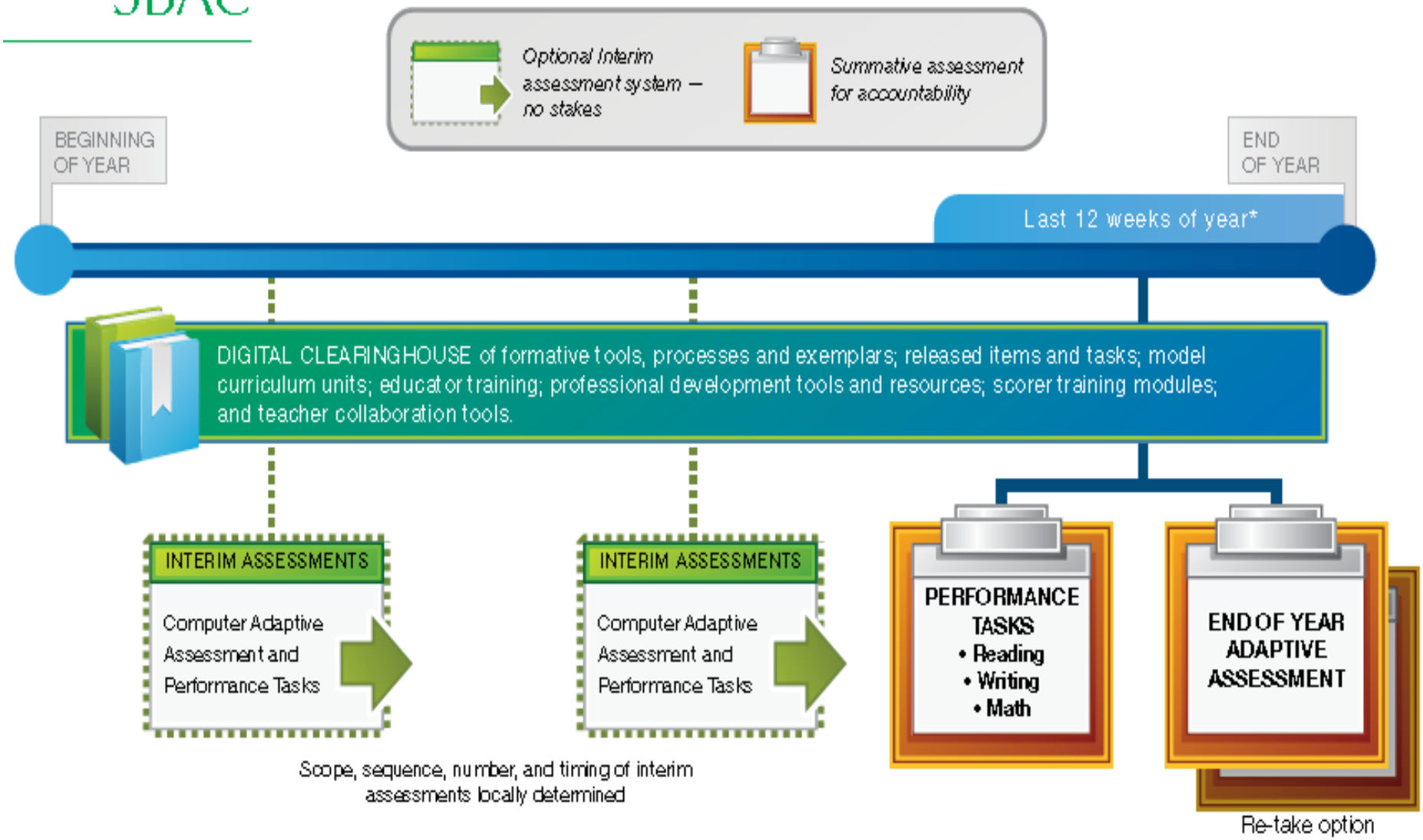


- One reading task, one writing task and 2 math tasks per year
- Measure the ability to integrate knowledge and skills, as required in CCSS
- Computer-delivered, during final 12 weeks of the school year*
- Scored within 2 weeks

- A computer adaptive assessment given during final weeks of the school year*
- Multiple item types, scored by computer
- Re-take option, as locally determined

SBAC


Optional Interim assessment system – no stakes
Summative assessment for accountability
BEGINNING OF YEAR
END OF YEAR
Last 12 weeks of year*
DIGITAL CLEARINGHOUSE of formative tools, processes and exemplars; released items and tasks; model curriculum units; educator training; professional development tools and resources; scorer training modules; and teacher collaboration tools.
INTERIM ASSESSMENTS
Computer Adaptive Assessment and Performance Tasks
INTERIM ASSESSMENTS
Computer Adaptive Assessment and Performance Tasks
PERFORMANCE TASKS
• Reading
• Writing
• Math
END OF YEAR ADAPTIVE ASSESSMENT
Re-take option
Scope, sequence, number, and timing of interim assessments locally determined
* Time windows may be adjusted based on results from the research agenda and final implementation decisions.

Benefits of Computer Adaptive Testing

Faster results	• Turnaround in weeks compared to months today
Shorter test length	• Fewer questions compared to fixed form tests
Increased precision	• Provides accurate measurements of student growth over time
Tailored to student ability	• Item difficulty based on student responses
Greater security	• Larger item banks mean that not all students receive the same questions
Mature technology	• GMAT, GRE, COMPASS (ACT), Measures of Academic Progress (MAP)

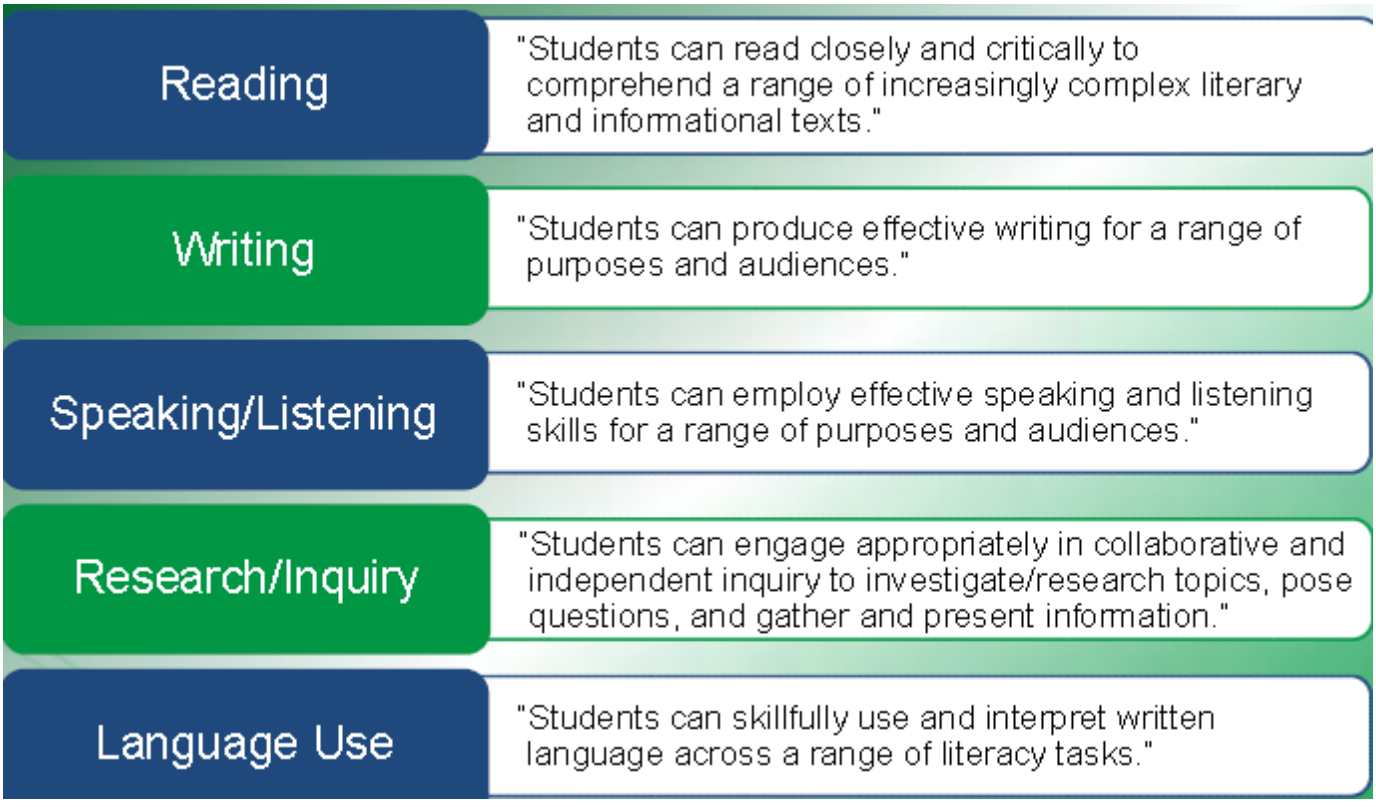
Interim Assessments

- **Diagnostic**-evaluate students' knowledge and skills relative to a specific set of academic goals within a limited time frame.
- Designed to **provide multiple data points across time and can inform decisions** at both the classroom and the school or district level.
- Provides **clear examples of expected performance on common standards**
- Performance task based assessments provide an opportunity to **challenge students to apply their knowledge and skills to respond to complex, real-world problems.**

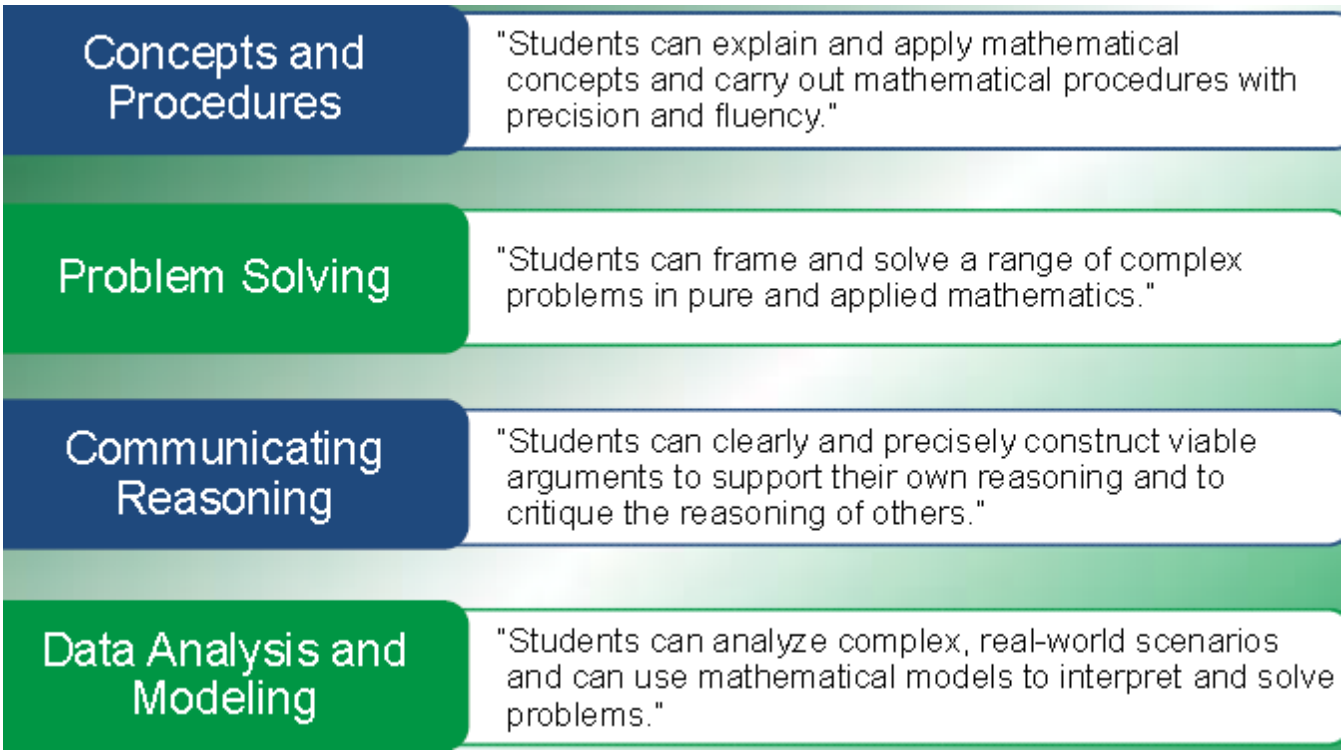
Types of Performance Task Items

- Collections of questions and tasks will be connected to a single theme or scenario.
  - For example, a student may be presented with reading material on a given topic, and asked questions about the reading.
  - That may be followed by reading on the same topic, but from a different perspective, with questions on that reading, plus some compare/contrast questions.
  - Finally, the student may be provided additional readings on the same, or an associated topic, and asked to take a position or provide an argument in favor of or opposing a particular perspective, using the provided texts as reference.

Assessment Goals for English/ Language arts



Assessment Goals for Mathematics



Summary of How the Common Core can Guide my Family, School, and/or Division to Move beyond Minimum Competencies presented by the Virginia SOL