



Understanding the Common Core State Standards

Why Common Core State Standards?



We need them because

- ◆ Disparate standards across the states
- ◆ Global, not neighborhood competition
- ◆ For many young people, high school wasn't preparing them for college or careers

Why the CCSS Are Important

- ◆ Prepare students with knowledge and skills to succeed in college and career
- ◆ Ensure consistent expectations regardless of a student's zip code
- ◆ Provide educators, parents and students with clear, focused guideposts
- ◆ Offer economies of scale and sharing of best practices



Why Common Core State Standards?



- ◆ **Preparation:** The standards are college- and career-ready. They will help prepare students with the knowledge and skills they need to succeed in education and training after high school.
- ◆ **Competition:** The standards are internationally benchmarked. Common standards will help ensure our students are globally competitive.
- ◆ **Equity:** Expectations are consistent for all – and not dependent on a student's zip code.
- ◆ **Clarity:** The standards are focused, coherent, and clear. Clearer standards help students (and parents and teachers) understand what is expected of them.
- ◆ **Collaboration:** The standards create a foundation to work collaboratively across states and districts, pooling resources and expertise, to create curricular tools, professional development, common assessments and other materials.



The Common Core State Standards Initiative



Beginning in the spring of 2009, Governors and state commissioners of education from 48 states, 2 territories and the District of Columbia committed to developing a common core of state K-12 English-language arts (ELA) and mathematics standards.

The Common Core State Standards Initiative (CCSSI) was a state-led effort coordinated by the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO).

www.corestandards.org





Building on the strength of current state standards, the CCSS are designed to be:

- ◆ Focused, coherent, clear and rigorous
- ◆ Internationally benchmarked
- ◆ Anchored in college and career readiness*
- ◆ Evidence- and research-based





K-12 Common Standards:

- ◆ Core writing teams in English Language Arts and Mathematics (See www.corestandards.org for list of team members)
- ◆ External and state feedback teams provided on-going feedback to writing teams throughout the process
- ◆ Draft K-12 standards were released for public comment on March 10, 2010; 9,600 comments received
- ◆ Validation Committee of leading experts reviews standards
- ◆ **Final standards were released June 2, 2010**



Common Core State Standards Evidence Base



Evidence was used to guide critical decisions in the following areas:

- ◆ Inclusion of particular content
- ◆ Timing of when content should be introduced and the progression of that content
- ◆ Ensuring focus and coherence
- ◆ Organizing and formatting the standards
- ◆ Determining emphasis on particular topics in standards

Evidence includes:

- ◆ Standards from high-performing countries, leading states, and nationally-regarded frameworks
- ◆ Research on adolescent literacy, text complexity, mathematics instruction, quantitative literacy
- ◆ Lists of works consulted and research base included in standards' appendices



Common Core State Standards Evidence Base



For example: Standards from individual high-performing countries and provinces were used to inform content, structure, and language. Writing teams looked for examples of rigor, coherence, and progression.

Mathematics

1. *Belgium (Flemish)*
2. *Canada (Alberta)*
3. *China*
4. *Chinese Taipei*
5. *England*
6. *Finland*
7. *Hong Kong*
8. *India*
9. *Ireland*
10. *Japan*
11. *Korea*
12. *Singapore*

English language arts

1. *Australia*
 - *New South Wales*
 - *Victoria*
2. *Canada*
 - *Alberta*
 - *British Columbia*
 - *Ontario*
3. *England*
4. *Finland*
5. *Hong Kong*
6. *Ireland*
7. *Singapore*



Feedback and Review

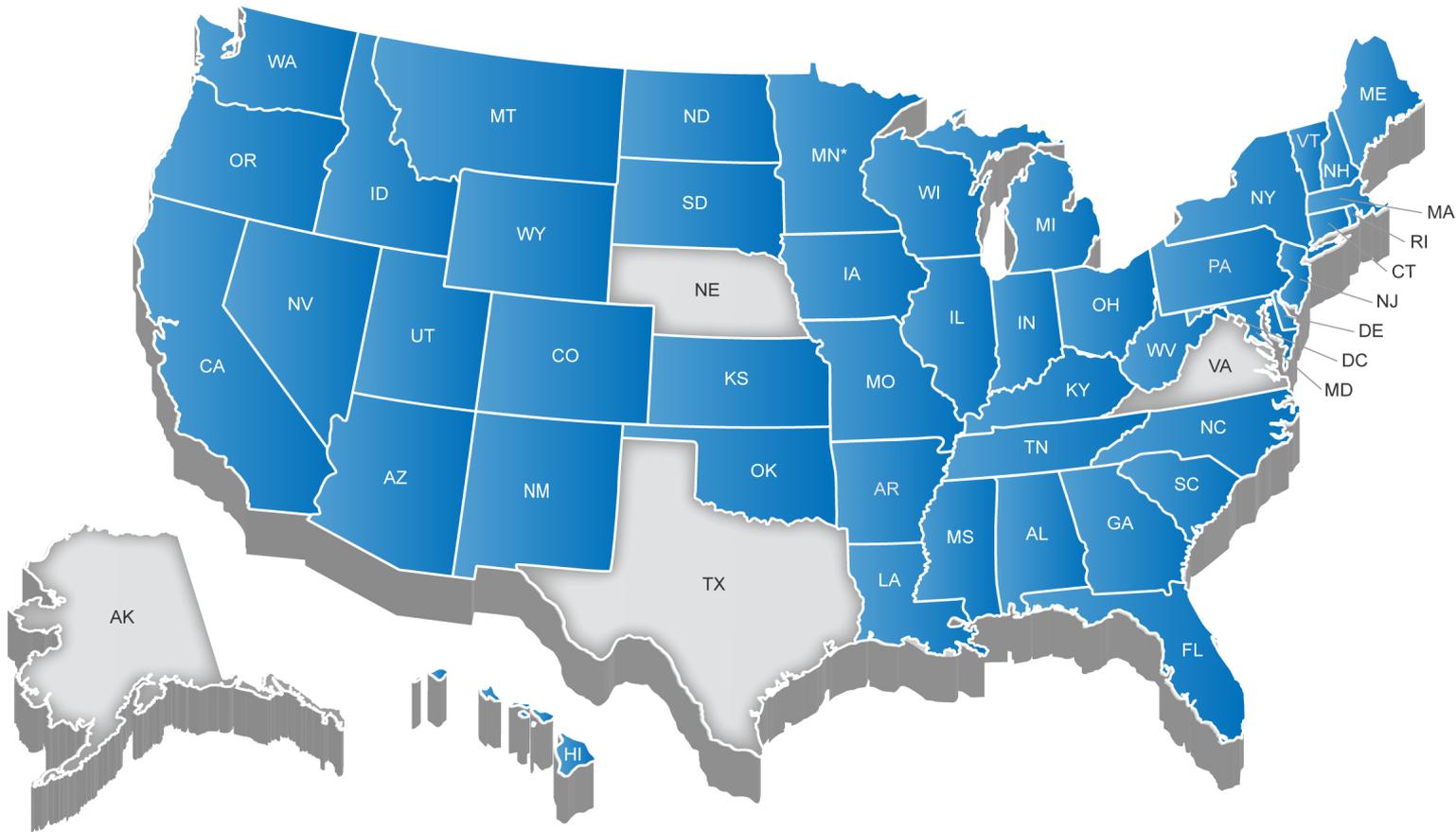


External and State Feedback teams included:

- ◆ K-12 teachers
- ◆ Postsecondary faculty
- ◆ State curriculum and assessments experts
- ◆ Researchers
- ◆ National organizations (including, but not limited, to):
 - American Council on Education (ACE)
 - American Federation of Teachers (AFT)
 - Campaign for High School Equity (CHSE)
 - Conference Board of the Mathematical Sciences (CBMS)
 - Modern Language Association (MLA)
 - National Council of Teachers of English (NCTE)
 - National Council of Teachers of Mathematics (NCTM)
 - National Education Association (NEA)



46 States + DC Have Adopted the Common Core State Standards



* Minnesota adopted the CCSS in ELA only





Common Core State Standards for *Mathematics*

Key Instructional Shifts in Mathematics



- ◆ The Common Core State Standards emphasize **coherence** at each grade level – making connections across content and between content and mathematical practices in order to promote deeper learning.
- ◆ The standards **focus** on key topics at each grade level to allow educators and students to go deeper into the content.
- ◆ The standards also emphasize **progressions** across grades, with the end of progression calling for **fluency** – or the ability to perform calculations or solving problems quickly and accurately.
- ◆ The **Standards for Mathematical Practice** describe mathematical “habits of mind” or mathematical **applications** and aim to foster reasoning, problem solving, modeling, decision making, and engagement among students.
- ◆ Finally, the standards require students to demonstrate **deep conceptual understanding** by applying them to new situations.



Organization of Common Core State Standards for Mathematics



Grade-Level Standards

- ◆ K-8 grade-by-grade standards organized by domain
- ◆ 9-12 high school standards organized by conceptual categories

Standards for Mathematical Practice

- ◆ Describe mathematical “habits of mind”
- ◆ Connect with content standards in each grade



Standards for Mathematical Practice



Eight Standards for Mathematical Practice

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



Overview of K-8 Mathematics Standards



The K- 8 standards:

- ◆ The K-5 standards provide students with a solid foundation in *whole numbers, addition, subtraction, multiplication, division, fractions and decimals*
- ◆ The 6-8 standards describe robust learning in *geometry, algebra, and probability and statistics*
- ◆ Modeled after the focus of standards from high-performing nations, the standards for grades 7 and 8 include *significant algebra and geometry content*
- ◆ Students who have completed 7th grade and mastered the content and skills will be *prepared for algebra, in 8th grade or after*



Overview of K-8 Mathematics Standards



Each grade includes an overview of cross-cutting themes and critical areas of study

Grade 1 Overview

Operations and Algebraic Thinking

- Represent and solve problems involving addition and subtraction.
- Understand and apply properties of operations and the relationship between addition and subtraction.
- Add and subtract within 20.
- Work with addition and subtraction equations.

Number and Operations in Base Ten

- Extend the counting sequence.
- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

Measurement and Data

- Measure lengths indirectly and by iterating length units.
- Tell and write time.
- Represent and interpret data.

Mathematical Practices

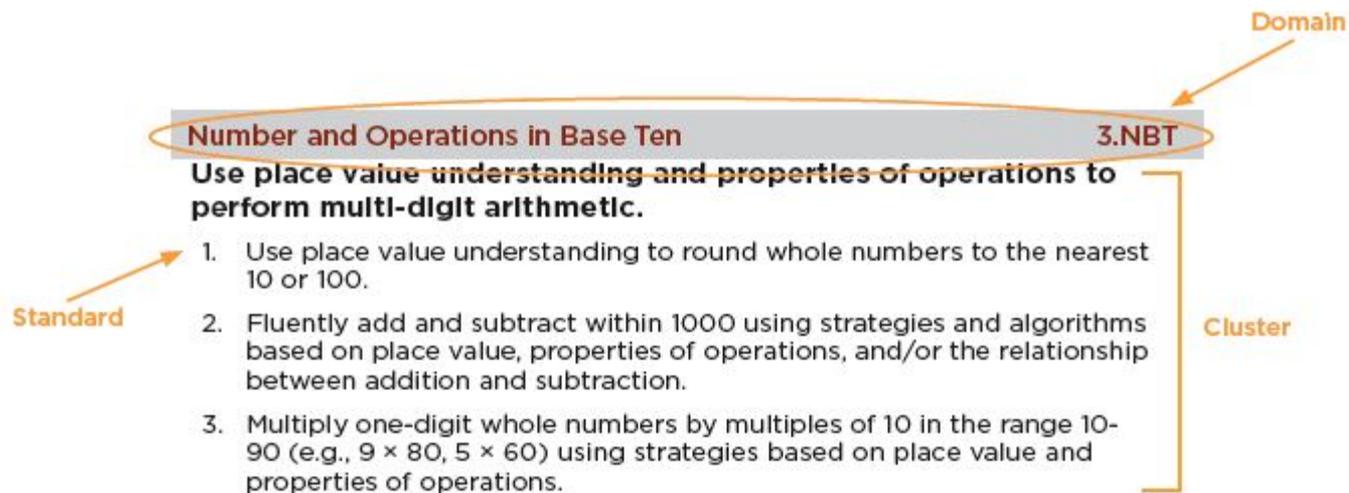
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look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



Format of K-8 Mathematics Standards



- ◆ **Domains:** overarching ideas that connect topics across the grades
- ◆ **Clusters:** illustrate progression of increasing complexity from grade to grade
- ◆ **Standards:** define what students should know and be able to do at each grade level



Overview of High School Mathematics Standards



The high school mathematics standards:

- ◆ Call on students to practice *applying mathematical ways of thinking* to real world issues and challenges
- ◆ Require students to develop a *depth of understanding and ability to apply mathematics to novel situations*, as college students and employees regularly are called to do
- ◆ Emphasize *mathematical modeling*, the use of mathematics and statistics to *analyze empirical situations*, understand them better, and improve decisions
- ◆ Identify the mathematics that all students should study in order to be *college and career ready*



Format of High School Mathematics Standards



- ◆ **Content/Conceptual categories:** overarching ideas that describe strands of content in high school
- ◆ **Domains/Clusters:** groups of standards that describe coherent aspects of the content category
- ◆ **Standards:** define what students should know and be able to do at each grade level
- ◆ High school standards are organized around five conceptual categories: *Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability*
- ◆ Modeling standards are distributed under the five major headings and are indicated with a (★) symbol
- ◆ Standards indicated as (+) are beyond the college and career readiness level but are necessary for advanced mathematics courses, such as calculus, discrete mathematics, and advanced statistics. Standards with a (+) may still be found in courses expected for all students



Format of High School Mathematics Standards



Each content category includes an overview of the content found within it

Number and Quantity Overview

The Real Number System

- Extend the properties of exponents to rational exponents
- Use properties of rational and irrational numbers.

Quantities

- Reason quantitatively and use units to solve problems

The Complex Number System

- Perform arithmetic operations with complex numbers
- Represent complex numbers and their operations on the complex plane
- Use complex numbers in polynomial identities and equations

Vector and Matrix Quantities

- Represent and model with vector quantities.
- Perform operations on vectors.
- Perform operations on matrices and use matrices in applications.

Mathematical Practices

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.
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Model Course Pathways for Mathematics



Model Mathematics Pathways:

- ◆ Developed by a panel of experts convened by Achieve, including many of the standards writers and reviewers
- ◆ Organize the content of the standards into coherent and rigorous courses
- ◆ Illustrate possible approaches—models, not mandates or prescriptions for organization, curriculum or pedagogy
- ◆ Require completion of the Common Core in three years, allowing for specialization in the fourth year
- ◆ Prepare students for a menu of courses in higher-level mathematics



Model Course Pathways for Mathematics



Courses in higher level mathematics: Precalculus, Calculus (upon completion of Precalculus), Advanced Statistics, Discrete Mathematics, Advanced Quantitative Reasoning, or other courses to be designed at a later date, such as additional career technical courses.

Algebra II

Geometry

Algebra I

Pathway A

Traditional in U.S.

**Mathematics
III**

Mathematics II

Mathematics I

Pathway B

*International Integrated approach (typical
outside of U.S.)*





Common Core State
Standards for *English
Language Arts and
Literacy in History/
Social Studies, Science,
and Technical Subjects*

Key Instructional Shifts in ELA/Literacy



- ◆ In Reading, the major advances are the shift away from literature-focused standards to a **balance of literature and informational texts** to reflect college- and career-ready expectations. There is also a greater focus on **text complexity** and at what level students should be reading.
- ◆ In Writing, there is a strong emphasis on **argument and informative/ explanatory writing**, along with an emphasis on writing about sources or **using evidence** to inform an argument.
- ◆ The Common Core also include **Speaking and Listening** expectations, including a focus on formal and informal talk, which can be done through presentations and group work.
- ◆ The Language standards put a stress on **both general academic** and **domain-specific vocabulary**.
- ◆ The Common Core also address **reading, writing and literacy across the curriculum**, and include literacy standards for science, social studies and technical subjects. These standards complement rather than replace content standards in those subjects, and are the responsibility of teachers in those specific disciplines, making literacy a shared **responsibility across educators**.



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



College and Career Readiness (CCR) Standards

- ◆ Overarching standards for each strand that are further defined by grade-specific standards

Grade-Level Standards in English Language Arts

- ◆ K-8, grade-by-grade
- ◆ 9-10 and 11-12 grade bands for high school
- ◆ Four strands: *Reading, Writing, Speaking and Listening*, and *Language*

Standards for Literacy in History/Social Studies, Science, and Technical Subjects

- ◆ Standards are embedded at grades K-5
- ◆ Content-specific literacy standards are provided for grades 6-8, 9-10, and 11-12



Overview of Reading Strand



Reading

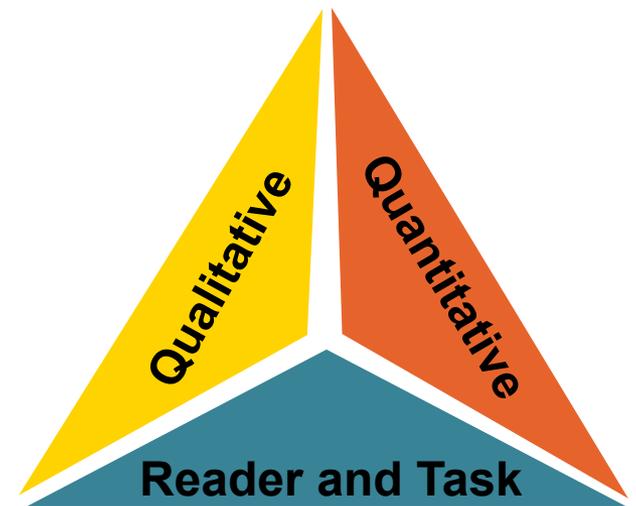
- ◆ Progressive development of reading comprehension; students gain more from what they read
- ◆ Emphasize the importance of grade-level texts that are of appropriate difficulty and are increasingly sophisticated
 - Standards for Reading Foundational Skills (K-5)
 - Reading Standards for Literature (K-12)
 - Reading Standards for Informational Text (K-12)
 - Reading Standards for Literacy in History/Social Studies (6-12)
 - Reading Standards for Literacy in Science and Technical Subjects (6-12)



Overview of Text Complexity



- ◆ Reading Standards include over exemplar texts (stories and literature, poetry, and informational texts) that illustrate appropriate level of complexity by grade
- ◆ Text complexity is defined by:
 1. Qualitative measures – levels of meaning, structure, language conventionality and clarity, and knowledge demands
 2. Quantitative measures – readability and other scores of text complexity
 3. Reader and Task – background knowledge of reader, motivation, interests, and complexity generated by tasks assigned



Example of Grade-Level Progression in Reading



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

Reading Standards for Literature

Grade 3: Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

Grade 7: Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot)

Grades 11-12: Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).



Reading Standards for Informational Text

Grade 3: Describe the relationships between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

Grade 7: Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

Grades 11-12: Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.





Format highlights progression of standards across grades

Reading Standards for Literature K-5

RL

Grade 3 students:	Grade 4 students:	Grade 5 students:
Key Ideas and Details		
1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.	2. Determine a theme of a story, drama, or poem from details in the text; summarize the text.	2. Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.
3. Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.	3. Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).	3. Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.	4. Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).	4. Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
5. Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.	5. Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.	5. Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.
6. Distinguish their own point of view from that of the narrator or those of the characters.	6. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.	6. Describe how a narrator's or speaker's point of view influences how events are described.



Overview of Writing Strand



Writing

- ◆ Expect students to compose arguments and opinions, informative/explanatory pieces, and narrative texts
- ◆ Focus on the use of reason and evidence to substantiate an argument or claim
- ◆ Emphasize ability to conduct research – short projects and sustained inquiry
- ◆ Require students to incorporate technology as they create, refine, and collaborate on writing
- ◆ Include student writing samples that illustrate the criteria required to meet the standards (See standards' appendices for writing samples)



Overview of Speaking and Listening and Language Strands



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 CCSS



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





Understanding the Common Core State Standards