

Keeping You Informed About the Common Core State Standards

The Common Core State Standards (CCSS) provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy.

The video "[A New Foundation for Student Success](#)"  , commissioned by the Hunt Institute and the Council of Chief State School Officers (CCSSO), provides an introduction to the Common Core State Standards, including a brief history.

Question: Which teachers will be implementing the California Common Core Standards for ELA?

The California Common Core Standards for ELA include literacy standards for history/social studies, science, and technical subjects. The responsibility for implementing the literacy standards in grades six through twelve is expected to be shared between the ELA teachers and the teachers in other content areas. The literacy standards complement the content standards in those disciplines. There are grade-level ELA standards for kindergarten through grade eight, and sets of standards for grades 9-10 and 11-12. For kindergarten through fifth grade, the literacy standards are embedded into the ELA standards. For grades six through twelve, there is a separate set of literacy standards.

Question: How are California's existing English Language Arts standards and the new California Common Core Standards similar?

The content and the organization of California's current standards and the new California Common Core Standards are very similar. For example, the existing ELA standards are organized into four categories called domains (e.g., reading, writing, listening and speaking, and written and oral English-language conventions). The California Common Core Standards are similarly organized into four groups called strands: (1) reading, (2) writing, (3) speaking and listening, and (4) language.

Question: Are there differences between California's existing English Language Arts standards and the new California Common Core Standards?

Yes. For example, the California Common Core Standards are anchored in the College and Career Readiness Standards (Appendix A at the end of this document). The Common Core State Standards focus to a greater extent on text complexity, address reading and writing across the curriculum, emphasize informational text, and focus on writing arguments and drawing evidence from

sources. The California Common Core Standards build on California's existing standards in reading foundations.

Question: California was able to add up to 15% to the CCSS. What does that include for English Language Arts?

California added information to the Common Core State Standards for English language arts to address perceived gaps and to ensure that the rigor of California's existing standards would be maintained. Some examples include the following additions: "formal presentations" in the Speaking and Listening strand (grades 1-12); "penmanship" in the Language strand (grades 2-4); "career and consumer documents" in the Writing strand (grade 8); and "analysis of text features in informational text" in the Reading for Informational Text strand (grades 6-12). Additionally, there are minor insertions of specific words to enhance the standards (e.g., "archetypes" and "thesis").

Question: How are California's existing mathematics standards and the new Common Core State Standards different?

There are more similarities between California's existing mathematics standards and the new California Common Core Standards than there are differences. Some differences include: a shift in the grade level for some skills, the organization of the standards, and options available for eighth grade students.

Question: How are the California Common Core Standards for mathematics organized?

There are grade-level standards for kindergarten through eighth grade, a set of standards for Algebra 1, and conceptual cluster standards for grades nine to twelve (e.g., number and quantity, algebra, functions, modeling, geometry, and statistics and probability). The standards for kindergarten through eighth grade are categorized by standard, domain, and cluster.

Question: What options do the California Common Core Standards provide for eighth grade students?

The goal is for eighth grade students to successfully complete Algebra 1. However, because not all eighth grade students have the necessary prerequisite skills for Algebra 1, there will be two options for students. Eighth grade California Common Core Standards will be provided to students who are not yet ready for Algebra and the other students will learn the Algebra 1 standards. Each set of standards is designed to prepare students for college and careers. The standards for kindergarten through seventh grade were augmented to prepare eighth grade students for either set of standards.

Question: What is the content of the California Common Core Standards for Algebra I?

The new Algebra I standards are a combination of standards from the eighth grade common core, the Algebra content cluster, and California's existing Algebra I standards.

Question: California was able to add up to 15% to the Common Core State Standards. What does that include for mathematics?

California added information to the Common Core State Standards for mathematics to address perceived gaps and to ensure that the rigor of California's existing standards would be maintained. For example, California's standards for "calculus" and "advanced placement probability and statistics" were added to the California Common Core Standards. In grades two and five, standards were added to the domain of "Operations and Algebraic Thinking." Substantial sections were added to existing clusters such as "High School Algebra-Seeing Structure in Expression," and "Grade 6 - the number system." In other instances, some language was added to existing standards such as in the Grade 2 Measurement and Data domain, "working with time and money" cluster, standards #7 and #8, and the Grade 4/Geometry domain, standard #2.

Question: The CCSS are based on the College and Career Readiness Standards. Where can I read more about the CCSS College and Career Readiness (CCR) Anchor Standards?

You can go to the California Department of Education website and the College and Career Readiness Anchor Standards for English Language Arts are included at the end of this Q & A.

Question: What year will California students first be tested on the Common Core State Standards?

Currently, the state is planning on testing students on the CCSS in the 2014 – 2015 school year.

Question: Where can I find out more about the California Common Core Standards?

The California Common Core Standards are posted at <http://www.scoe.net/castandards/index.html>

Appendix A: CCSS College and Career Readiness Anchor Standards

The CCSS College and Career Readiness (CCR) Anchor Standards define the literacy expectations for students entering college and careers and provide the foundation for the K-12 English language arts standards. Although the CCR Anchor Standards were not part of the California State Board of Education action in August 2010, they are essential to understanding the structure and cohesive nature of the CCSS.

READING

Key Ideas and Details

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

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.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse media and formats, 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 or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

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

WRITING

Text Types and Purposes

1. Write arguments to support claims in an analysis of substantive topics or texts,

- using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
 3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

SPEAKING AND LISTENING

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express

information and enhance understanding of presentations.

6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

LANGUAGE

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of word relationships and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Mathematics | Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy).

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be

gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable

them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

7. Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y .

8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content

The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction.

The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word “understand” are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices.

In this respect, those content standards which set an expectation of understanding are potential “points of intersection” between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.

Introduction from the
K-12 California’s Common Core Content Standards for Mathematics
California Department of Education

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