



Supporting Students for College and Career Readiness through the Common Core



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Today's Objective

- To examine some of the Common Core State Standards (CCSS) and their implications for instructional practice in both core and career technical courses
- To consider how collaboration between core and career technical teachers might reinforce student learning for “College and Career Readiness”



Oh boy, here we go again!





CCSS: A Major Challenge and Opportunity

- College and career readiness expectations
- Rigorous content and applications
- Conceptual understanding stressed as well as procedural skills
- Real world applications emphasized
- Focus on teaching and learning
- Designed around evidenced-based learning progressions



ESEA Reauthorization

“I am convinced that this new generation of state assessments will be an absolute game-changer in public education.”

*---Education Secretary Arne Duncan
September 2, 2010*



Today's Reality

A report from Georgetown Center on education and the workforce forecasts:

- 63% of all jobs will require at least some college in 2018, up from 59% now
- The U.S. will need to produce 22 million more post-secondary education degrees by 2018, but we are likely to fall short

Source Center on Education and Workforce



Today's Reality

Post-secondary education (PSE) is necessary to compete in the global economy in 2010 and beyond:

- Between 1973 and 2007, we added 63 million jobs
- Jobs held by those with no more than a high school education fell by 2 million over this period
- Workers with a HS education or less now make up just 41% of workforce, as compared to 72% in 1971



“College Ready” – A Broader Definition

“College for All” needs to be broadened to mean a meaningful “post-high school credential” for all

A meaningful credential can be earned in many ways:

- Community college
- Apprenticeships
- The military/community service
- Four year college



“Career Ready”

U. S Employers increasingly complain that young adults lack “21st Century Skills”

- “Are They Ready To Work” Report
- Partnership for 21sts Century Skills
- Tony Wagner’s Seven Survival Skills”



“Career and College Ready” Definition

The mission of the Association of California School Administrators (ACSA) is to support California’s Educational leaders; ensure all students have the essential skills and knowledge needed to excel; and champion public education. Additionally, the ACSA Executive Director has established goals for 2011-12, including ensuring that ACSA continues is a leader on issues that relate most directly to teaching and learning. In support of ACSA’s mission and goals, the ACSA CTE Council has developed the following definition of Career and College Readiness.

The goal of our educational system is for our students to be career and college ready. Career and college ready students:

- Graduate from high school proficient in nationally and internationally benchmarked content and performance standards, which includes the arts, core academics, career technical and 21st century working skills
- Demonstrate transferable skills necessary for career success, including communication skills, industry certification, work ethic and integrity, leadership and teamwork
- Satisfy eligibility criteria for admission into post-secondary education and training
- Have a fully developed comprehensive education/career plan that includes high school options, job opportunities and costs and requirements associated with trade and technical school



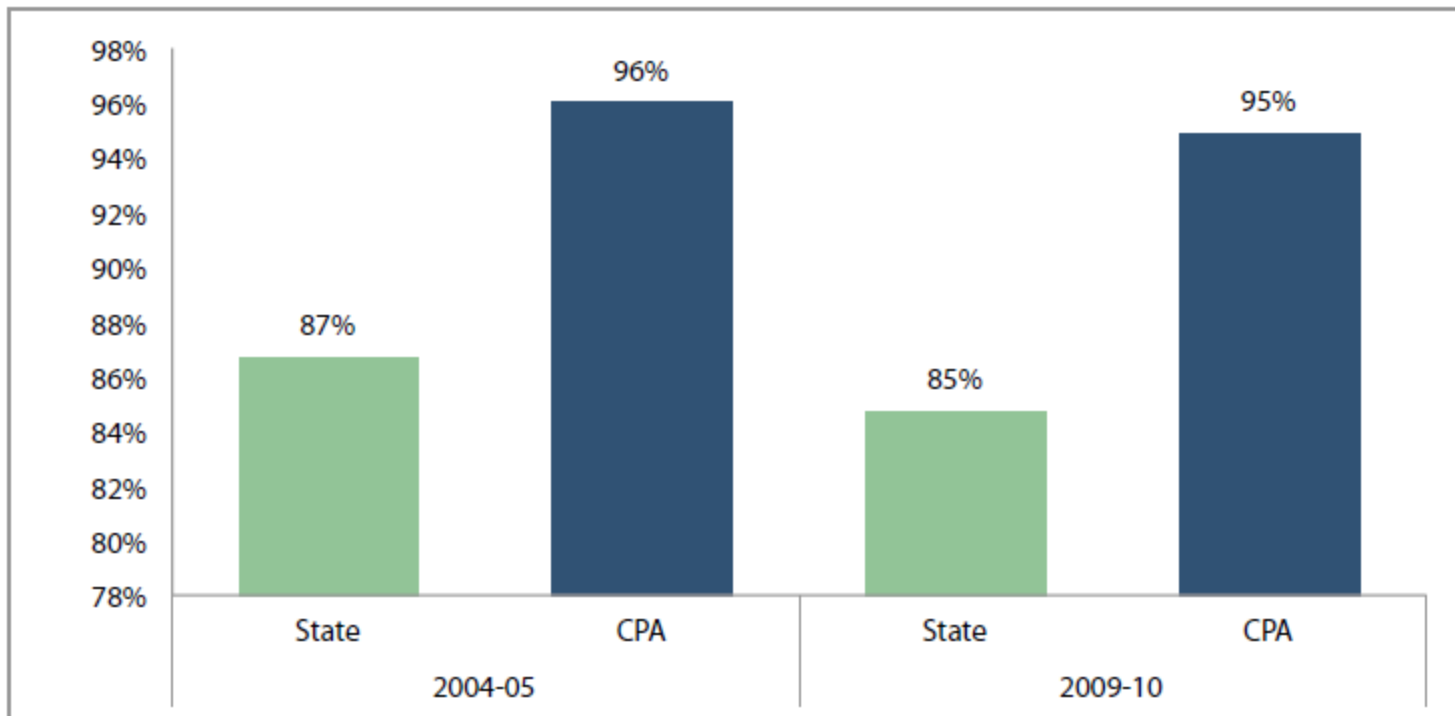
California Partnership Academies

Linked to Graduation, College Readiness

- 50,000 students enrolled in CPA's
- Pass the state's high school exit exam in English and math at higher rates than the statewide average
- Qualify for meeting the UC/CSU a-g college entrance requirements at higher rates than state average
- Graduate on time at a 95% rate compared with a statewide rate of 85%



CPA Graduation Rate

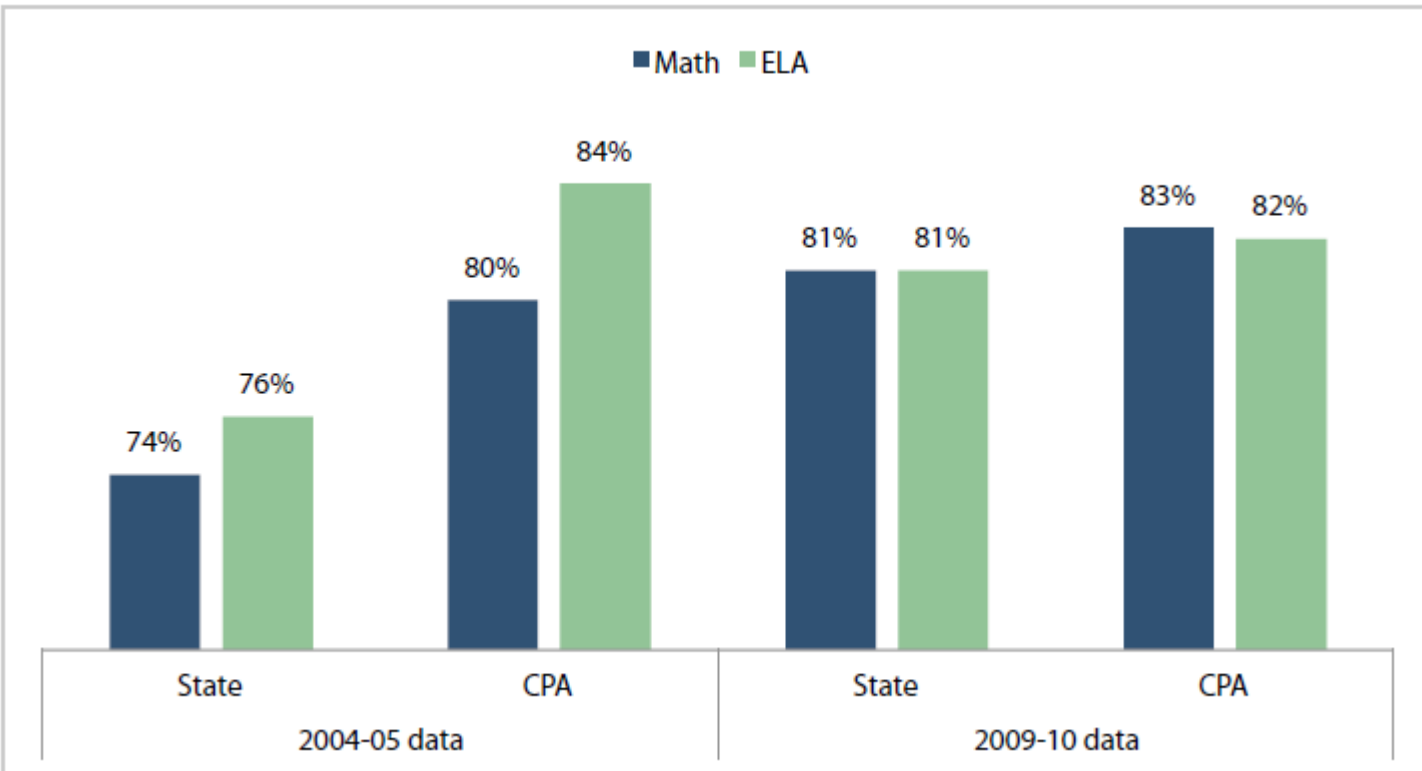


CPA and California 12th grade graduation rates, 2009-10 and 2004-05

Source: The Profile of the California Partnership Academies, ConnectEd/Linked Learning, 2011



ELA & Mathematics



10th-grade CAHSEE pass rates by subject test 2009-10 and 2004-05

Source: The Profile of the California Partnership Academies, ConnectEd/Linked Learning, 2011

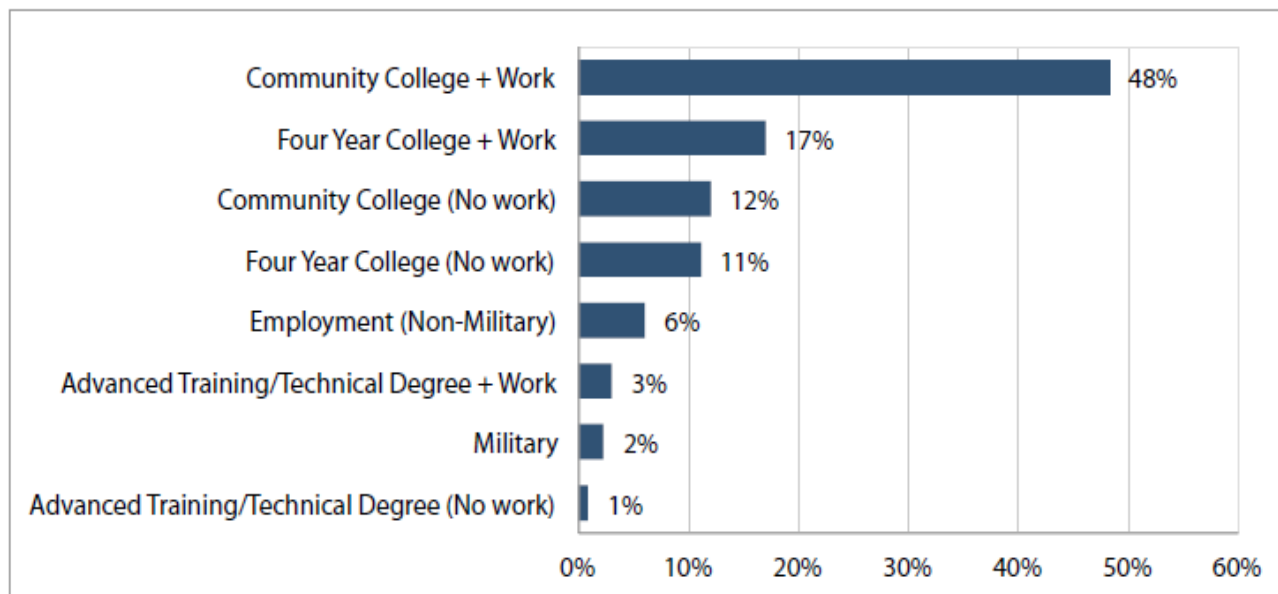


Student Intentions & Experience

Combining college and career

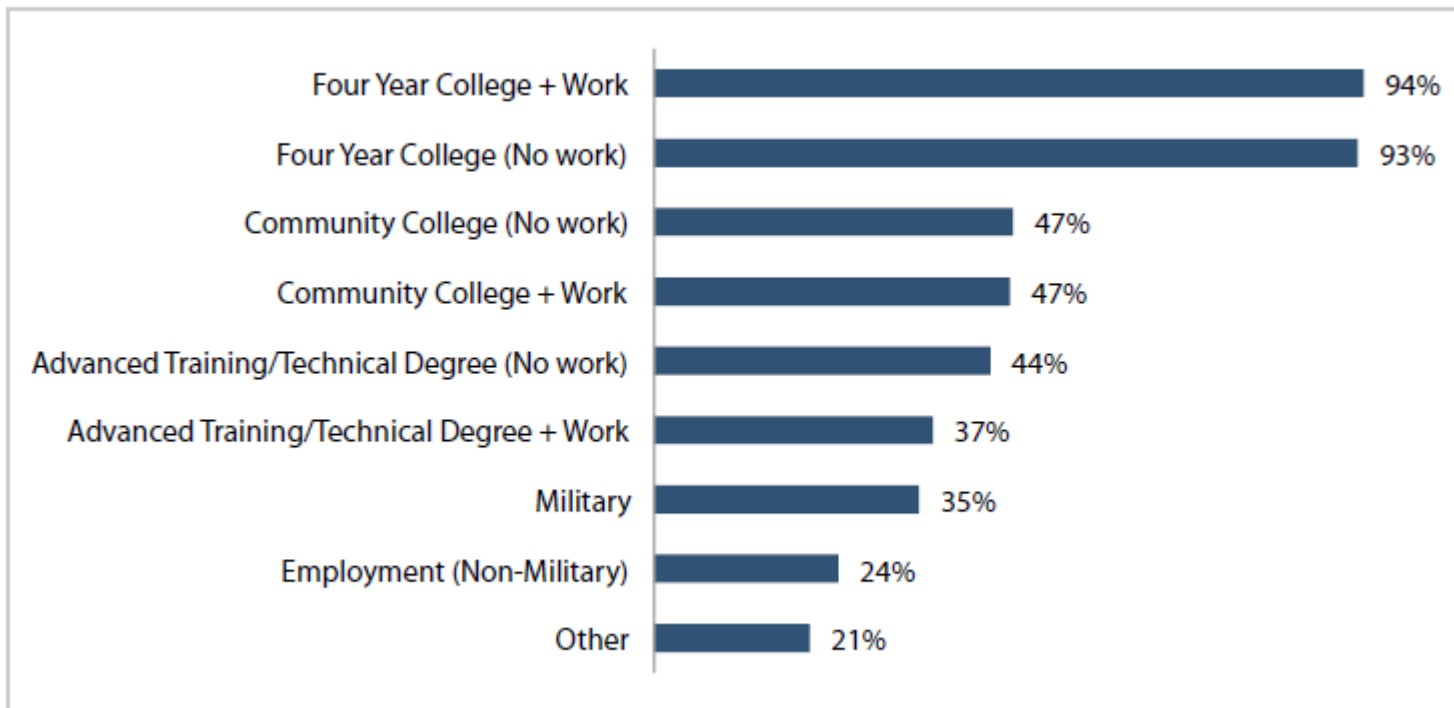
Most CPA seniors plan to combine college and work after they graduate, as Figure 17 shows. Three out of five students plan to attend a community college, and 28% a four-year college. A large majority of these students plan to work while attending college. These plans are consistent with the CPA goal of preparing students to pursue a range of college and career options after high school.

Figure 17: Postsecondary plans of CPA seniors, 2009-10





Post-Secondary Plans & Meeting A-G



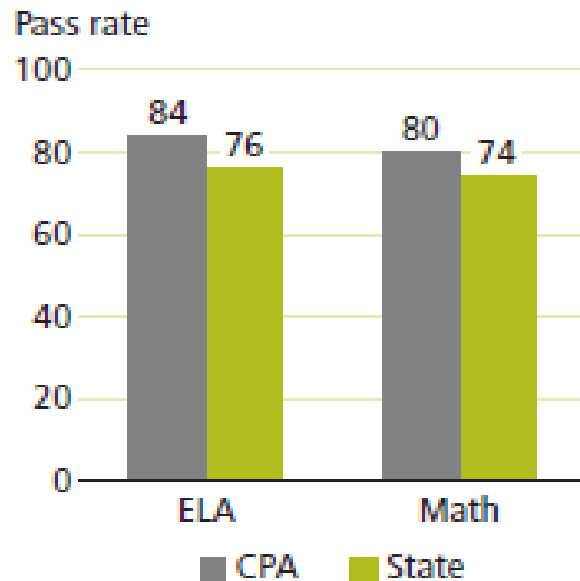
Academy graduates reported to meet a-g requirements, by post secondary plans, 2009-10



CPA: Better CAHSEE Pass Rates

2006 - Comparing 12,000 sophomores from 287 CPA's against 460,000 Sophomores

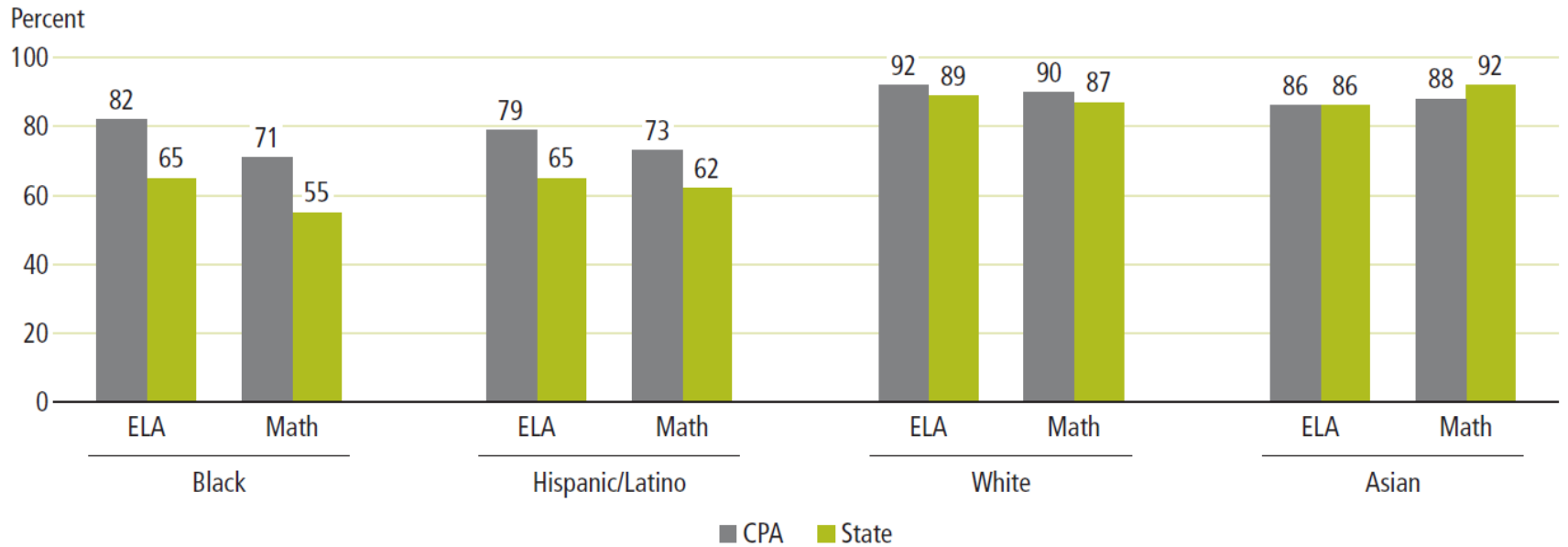
FIGURE 1
10th-grade CAHSEE pass rates by subject test



Resource: Evidence Report on California Partnership Academies : One Model of Linked Learning Pathways



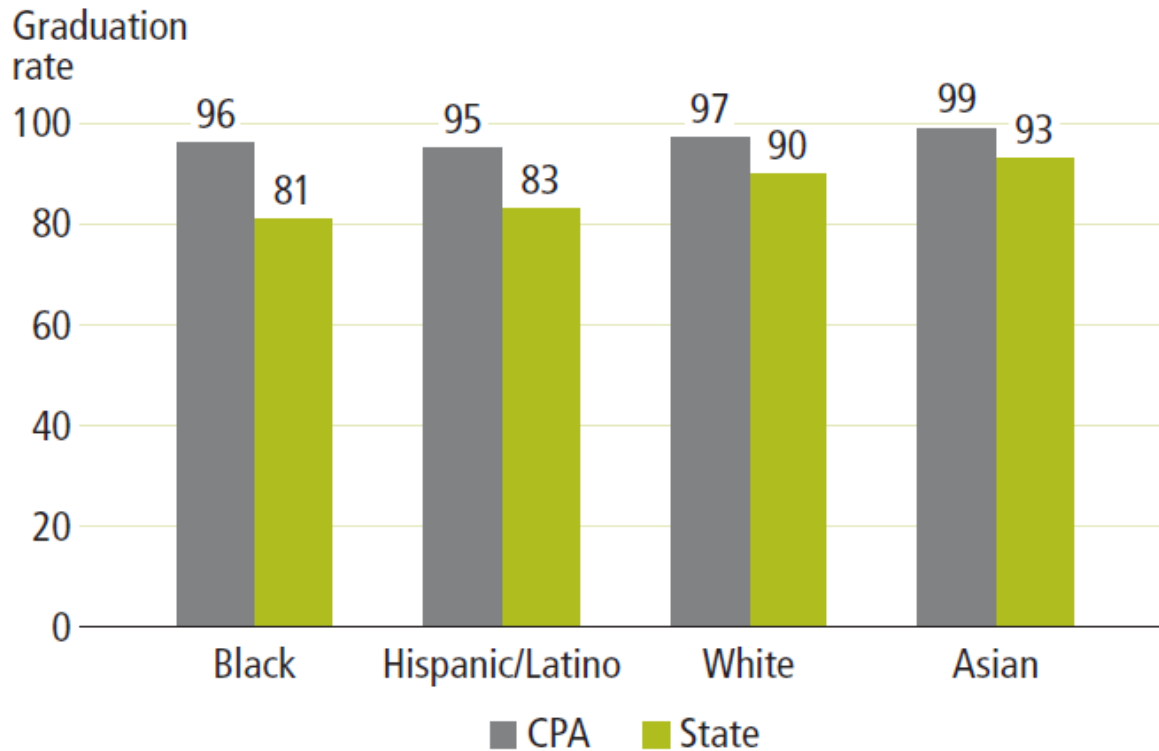
10th grade CAHSEE Pass Rates by Ethnicity



Resource: Evidence Report on California Partnership Academies : One Model of Linked Learning Pathways



CPA and CA Grad Rates by Race/Ethnicity



Resource: Evidence Report on California Partnership Academies : One Model of Linked Learning Pathways



The CTE Common Core Vision

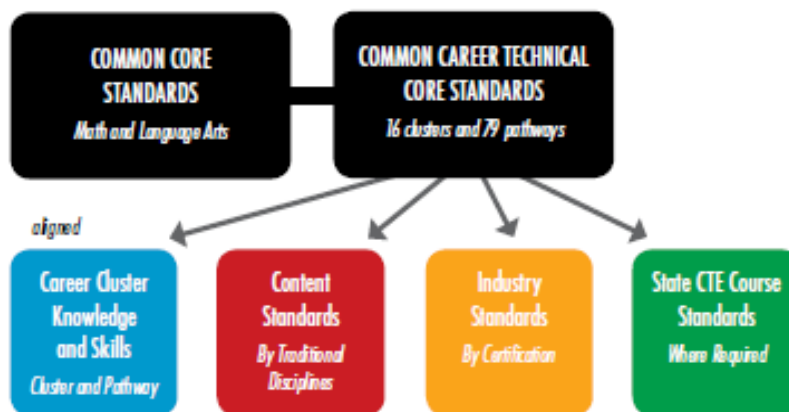
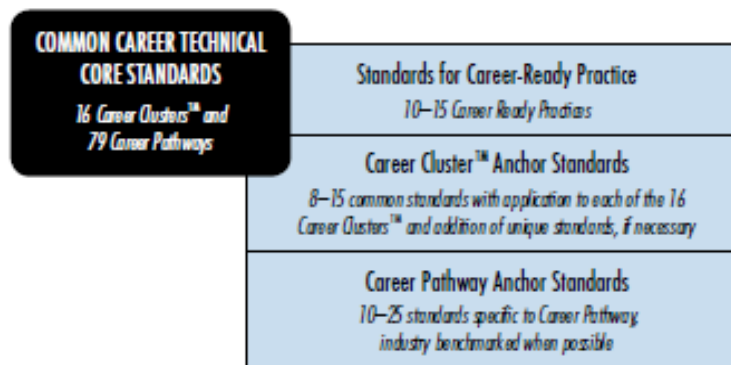


FIGURE 2: COMMON CAREER TECHNICAL CORE





The Common Core

Intentional Design Limitations

What the CC Standards do NOT define:

- How teachers should teach
- All that can or should be taught
- The nature of advanced work beyond the core
- The interventions needed for students well below grade level
- The full range of support for English Language Learners and students with special needs
- Everything needed to be college and career ready



Common Core Standards Reinforced by CTE

Authentic Applications in the Workplace

- Friction coefficient (Math, ELA) – Skid mark analysis, *Public Safety Officer*
- Force, kinetic energy, measurement and algebra (Math) – Designing faster and more durable skateboards, *Mechanical Engineering*
- Converting energy directly from the sun for electricity using photovoltaic cells (Math, Science) – *Electrical/Environmental Engineering*
- Geometry, fractions and measurements (Math) – *Computer Aided Drafting (CAD)*
- Text complexity, informational reading, analytical skills for diagnosis (ELA) – *Automotive (Service Technician)*
- Copy-writing, communication, commercial messaging, persuasive writing and presentations, team player (ELA) – *Marketing and Public Relations, Business Education*
- English language use and grammar, record keeping, anatomy and physiology, typing & computer skills, medical terminology (ELA, science) – *Medical Records*



ELA Key Advances in CCSS

Reading

- Balance of literature and informational texts
- Text complexity

Writing

- Emphasis on argument and informative/explanatory writing
- Writing about sources (citing the evidence)

Speaking and Listening

- Inclusion of formal and informal talk
- Emphasis on collaboration

Language

- Stress on general academic and domain-specific vocabulary (tier 2 and 3 vocabulary)



New Emphasis on Informational Text

Distribution of Literary and Informational Passages by Grade in the 2009 NAEP Reading Framework

Grade	Literary	Information
4	50%	50%
8	45%	55%
12	30%	70%

Source: National Assessment Governing Board. (2008). Reading framework for the 2009 National Assessment of Educational Progress. Washington, DC: U.S. Government Printing Office.



Lexile Levels Increase

Figure 3: Text Complexity Grade Bands and Associated Lexile Ranges (in Lexiles)

Text Complexity Grade Band in the Standards	Old Lexile Ranges	Lexile Ranges Aligned to CCR expectations
K-1	N/A	N/A
2-3	450-725	450-790
4-5	645-845	770-980
6-8	860-1010	955-1155
9-10	960-1115	1080-1305
11-CCR	1070-1220	1215-1355



Lexile Levels of Literature

1500 - On Ancient Medicine

1400 - The Scarlet Letter

1300 - Brown vs. Board of Ed.

1200 - War and Peace

1100 - Pride and Prejudice

1000 - Black Beauty

900 - Tom Swift in the Land of Wonders

800 - The Adventures of Pinocchio

700 - Bunnicula: A Rabbit Tale of Mystery

600 - A Baby Sister for Frances

500 - The Magic School Bus Inside the Earth

400 - Frog and Toad are Friends

300 - Clifford's Manners



Personal Use

- Aetna Health Care Discount Form (1360)
- Medical Insurance Benefit Package (1280)
- Application for Student Loan (1270)
- Federal Tax Form W-4 (1260)
- Installing Your Child Safety Seat (1170)
- Microsoft Windows User Manual (1150)
- G.M. Protection Plan (1150)
- CD DVD Player Instructions (1080)



ELA CCSS – Informational Text Reinforced by CTE

Informational Text Features

Informational text features help the reader more easily navigate the text and often provide additional information to help students comprehend the content.

Print Features <i>Guide readers through the patterns of organization</i>	
Feature	Helps the Reader...
Table of Contents	Identify key topics in the book and the order they are presented in
Index	See everything in the text listed alphabetically, with page numbers
Glossary	Define words contained in the text
Preface	Set a purpose for reading, get an overview of the content
Pronunciation Guide	Say the words
Appendix	By offering additional information

Illustrations <i>Expand the meaning of the text</i>	
Feature	Helps the Reader...
Photos	Understand exactly what something looks like
Drawings	Understand what something could or might have looked like
Magnification	See details in something small

Organizational Aids <i>Help readers find important information</i>	
Feature	Helps the Reader...
Bold Print	By signaling the word is important and/or found in the glossary
Colored Print	Understand the word is important
Italics	Understand the word is important
Bullets	Emphasize key points/concepts
Titles	Locate different categories in the text
Headings	Identify topics throughout the book as they skim and scan
Subheadings	Navigate through sections of text
Captions	Understand a picture or photograph
Labels	Identify a picture or photograph and/or its parts
Sidebars	Gather additional or explanatory information.

Graphic Aids <i>Represent information in some specific way</i>	
Feature	Helps the Reader...
Diagrams	Understand a more detailed or simplified view of information.
Flow Diagram	Understand a complex sequence of movements or actions
Sketches	Visualize an important concept
Comparisons	Understand the size of one thing by comparing it to the size of something familiar
Graphs	Understand relativity between elements
Figures	Combine text information with graphical aids
Maps	Understand where things are in the world
Charts/Tables	Summarize/Compare information
Cross-Sections	Understand something by looking at it from the inside
Overlays	Understand additional information
Time-lines	Understand the sequence of time



Graphic Aide from Manual

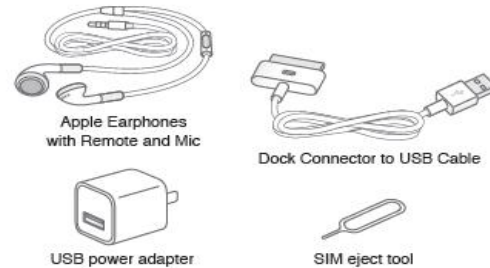
iPhone overview



Your iPhone and the Home screen may look different, depending on the model of iPhone you have and whether you've customized your Home screen.

Accessories

The following accessories are included with iPhone:





iphone Manual

Connecting iPhone to your computer

If you don't have Wi-Fi or cellular access, you may need to connect iPhone to your computer in order to complete activation. Connecting iPhone to your computer also lets you sync information, music, and other content with iTunes. See "Syncing with iTunes" on page 18.

Connect iPhone to your computer: Use the Dock Connector to USB Cable provided with iPhone.



Setting up mail and other accounts

iPhone works with iCloud, Microsoft Exchange, and many of the most popular Internet-based mail, contacts, and calendar service providers. If you don't already have a mail account, you can set up a free iCloud account when you first set up iPhone, or later in Settings > iCloud.

Set up an account: Go to Settings > Mail, Contacts, Calendars.

For information about iCloud, see "iCloud" on page 17.

You can add contacts using an LDAP or CardDAV account if your company or organization supports it. See "Syncing contacts" on page 107.

You can add a CalDAV calendar account, and you can subscribe to iCal (.ics) calendars or import them from Mail. See page 71.

Managing content on your iOS devices

You can transfer information and files between your iOS devices and computers using either iCloud or iTunes.

- *iCloud* stores your photos, apps, contacts, calendars, and more, and wirelessly pushes them to your devices. When something changes on one of your devices, your other devices are automatically updated. See "iCloud," below.
- *iTunes* syncs music, video, photos, and more between your computer and iPhone. Changes you make on one device are copied to the other when you sync. You can also use iTunes to copy a file to iPhone for use with an app, or to copy a document you've created on iPhone to your



Standards for Mathematical Practice

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.



Mathematics Standards:Current

State Standards

5NS 2.0 Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals:

5NS 2.5 Compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.

5NS2.4 Understand the concept of multiplication and division of fractions.

CC State Standards

5.NF 6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.



Mathematics: Current Example

Current California State Standards State Standards

5NS 2.0 Students perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals:

2.4 Understand the concept of multiplication and division of fractions.

5NS 2.5 Compute and perform simple multiplication and division of fractions and apply these procedures to solving problems.

Example:

Find the product of $\frac{3}{4} \times \frac{6}{5}$



Mathematics: CCSS Example

CC State Standards

5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers,
e.g., by using visual fraction models or equations
to represent the problem.

LET'S LOOK AT AN EXAMPLE!



The Cake Boss!

Butter Cake Ingredients:

- 1 1/2 cups butter, room temperature
- 2 1/2 cups granulated sugar
- 5 eggs
- 1 teaspoon pure vanilla extract Easy-Add
pure vanilla extract
- 3/4 teaspoon No Color Almond Extract
- 3 cups all-purpose flour
- 3/4 teaspoon baking powder
- 1/4 teaspoon salt
- 1 cup milk

Makes:

- About 7 1/2 cups cake batter.
- 30 Servings





Cake Math

This Butter Cake recipe serves 30. What if we need to serve 20?

- Generally speaking we can calculate the conversion factor and multiply by the amount of each ingredient in order to find the new ingredient amount.

$$\text{Conversion Factor} = \frac{\text{Desired Servings}}{\text{Original Servings}}$$

$$\text{Conversion Factor} = \frac{20 \text{ Servings}}{30 \text{ Servings}}$$

$$\text{Conversion Factor (Fraction Form)} = \frac{20}{30}$$

$$\text{Conversion Factor (Fraction Form)} = \frac{2}{3}$$

Cake Math

This Butter Cake recipe serves 30.

What if we need to serve 20?

Ingredients	Conversion Factor		
1 1/2 cups butter, room temperature	2/3	$1\frac{1}{2} \cdot \frac{2}{3} =$	$\frac{3}{2} \cdot \frac{2}{3} = \frac{6}{6} = 1$ cups
2 1/2 cups granulated sugar	2/3	$2\frac{1}{2} \cdot \frac{2}{3} =$	$\frac{5}{2} \cdot \frac{2}{3} = \frac{10}{6} = \frac{5}{3} = 1\frac{2}{3}$ cups
5 eggs	2/3	$5 \cdot \frac{2}{3} =$	$\frac{5}{1} \cdot \frac{2}{3} = \frac{10}{3} = 3\frac{1}{3}$ eggs
1 teaspoon pure vanilla extract	2/3	$1 \cdot \frac{2}{3} =$	$\frac{1}{1} \cdot \frac{2}{3} = \frac{2}{3}$ teaspoon
3/4 teaspoon No Color Almond Extract	2/3	$\frac{3}{4} \cdot \frac{2}{3} =$	$\frac{6}{12} = \frac{1}{2}$ teaspoon
3 cups all-purpose flour	2/3	$3 \cdot \frac{2}{3} =$	$\frac{3}{1} \cdot \frac{2}{3} = \frac{6}{3} = 2$ cups
3/4 teaspoon baking powder	2/3	$\frac{3}{4} \cdot \frac{2}{3} =$	$\frac{3}{4} \cdot \frac{2}{3} = \frac{6}{12} = \frac{1}{2}$ teaspoon
1/4 teaspoon salt	2/3	$\frac{1}{4} \cdot \frac{2}{3} =$	$\frac{3}{4} \cdot \frac{2}{3} = \frac{6}{12} = \frac{1}{2}$ teaspoon
1 cup milk	2/3	$1 \cdot \frac{2}{3} =$	$\frac{1}{1} \cdot \frac{2}{3} = \frac{2}{3}$ cup



ABLE Videos: Algebra I

Applications by **B**usiness and **L**abor for **E**ducators

Alliance for Education

San Bernardino County Superintendent of Schools

sbcalliance.org



Opportunities/Challenges

Our Teaching and Learning Paradigm Will Need to Change

- Engagement in learning
- Application of knowledge
- Collaboration among core and career technical teachers for enhanced student learning



CTE Resources

- http://casn.berkeley.edu/downloads/CPA_Report_2009-10.pdf
- www.connectedcalifornia.org/linked_learning
- http://www.connectedcalifornia.org/downloads/LL_Evidence_CPA%20Summary_web.pdf
- <http://casn.berkeley.edu/index.php>
- www.cde.ca.gov/ci/ct/sf/documents/cteframework.pdf
- www.cde.ca.gov/ci/ct/sf/documents/ctestandards.pdf
- www.carocp.org/
- www.acteonline.org/