



Introduction

Over the past decade, Texas has focused on ensuring that its students are prepared for a changing and increasingly complex future. In elementary and middle school, tests results have improved, especially among students of color, and more students of all backgrounds are entering and completing post-secondary education programs. However, despite these substantial gains, Texas trails other states in preparing and sending students to post-secondary education. It is also clear that K-12 students, along with their parents, are uncertain about what they must know and what intellectual skills they must possess to be successful beyond high school.

Recognizing the importance of a world class education, the 79th Texas Legislature, Third Called Special Session, passed House Bill 1, the “Advancement of College Readiness in Curriculum.” Section 28.008 of the Texas Education Code seeks to increase the number of students who are college and career ready when they graduate high school. The legislation required the Texas Education Agency (TEA) and the Texas Higher Education Coordinating Board (THECB) to establish Vertical Teams (VTs) to develop College and Career Readiness Standards (CCRS) in the areas of English/language arts, mathematics, science, and social studies. These standards specify what students must know and be able to do to succeed in entry-level courses at post-secondary institutions in Texas.

Vertical teams were composed of secondary and post-secondary faculty. In 2007, the VTs met in February, March, June, and August and developed draft standards to present to the Texas Higher Education Coordinating Board (THECB). At its October 2007 meeting, Board members approved posting of the draft standards for public comment. Over 1500 comments were received and these were reviewed when the VTs prepared their final drafts. The final drafts were submitted to the Commissioner of Higher Education who pre-

sented them to the THECB for adoption at its January 2008 meeting. The CCRS were approved unanimously and now go to the Commissioner of Education and the State Board of Education for approval and alignment with the Texas Essential Knowledge and Skills (TEKS).

The Nature of College and Career Readiness Standards

In developing the CCRS, the VTs set out to specify the knowledge and skills necessary to succeed in entry-level community college and university courses. The CCRS serve a different purpose from high school graduation standards, which typically emphasize mastery of basic skills and knowledge, and not necessarily college and career readiness. High school courses are designed to provide a broad set of core knowledge and skills and a foundation in literacy and basic mathematics. College courses typically require students to use content knowledge to weigh and analyze important issues and questions in a field of study. Even a high-quality college-preparatory curriculum is unlikely to prepare students to pursue a specific major in college. It can, however, help students develop a foundation of skills that they can employ to successfully pursue hundreds of college majors. Therefore, the CCRS distinguish themselves from high school standards by emphasizing content knowledge as a means to an end—the content stimulates students to engage in deeper levels of thinking.

The CCRS are designed to represent a full range of knowledge and skills that students need to succeed in entry-level college courses, as well as in a wide range of majors and careers. According to research, over 80% of 21st century jobs require some post-secondary education. By implementing these standards, secondary school and higher education faculty in all academic disciplines will advance the mission of Texas: college and career ready students.

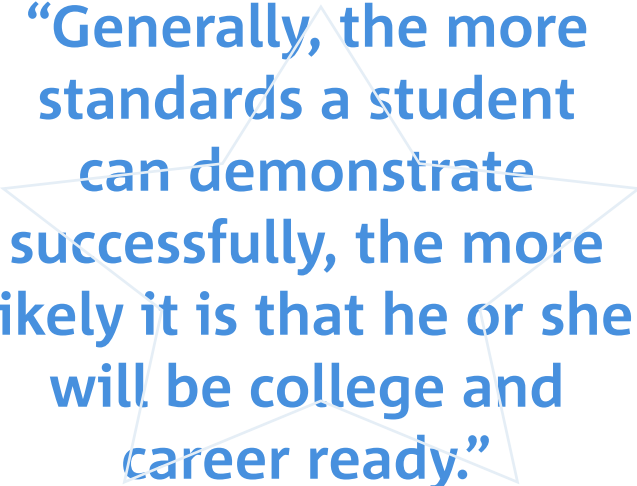
Organization of the College and Career Readiness Standards Framework

The CCRS consist of a multi-level framework that focuses not only on subject matter, but also on the way it is organized and presented in the classroom. This is crucial because at the post-secondary level, students need to understand the structure of the discipline and how knowledge expands from initial study of a topic. This pedagogical understanding sets a threshold for the kinds of deeper investigation and learning that occur as students pursue in-depth courses in their chosen majors. Without an adequate understanding of the structure of their discipline, students will have difficulty succeeding in or will get less out of the upper-division courses that they will eventually take. The CCRS, therefore, introduce these disciplinary structures at the entry-level in order to familiarize students with key concepts and content in each of the four subject areas previously specified and in a set of cross-disciplinary standards.

Roman numerals mark the key content within each subject area. Capital letters specify the organizing components for introducing key knowledge and skills. Numbered headings delineate specific performance expectations regarding expected knowledge and skills and also suggest the challenge level of the standard. The lower-case letters present indicators of ways in which students would demonstrate performance in each area. These performance indicators, which are included as part of the appendix, serve as examples only and have not been adopted as policy by the Texas Higher Education Coordinating Board.

The CCRS should not be construed as a checklist. Generally, however, the more standards a student can demonstrate successfully, the more likely it is that he or she will be college and career ready. More importantly, that student will be prepared to succeed in most subject areas offered in college. Therefore, rather than superficially glossing over each standard, students will benefit from mastering them.

The reader should keep an important distinction in mind when reviewing the CCRS. They avoid restating in detail all the prerequisite knowledge and skills that students must master to be college and career ready. The CCRS focus on “keystone” knowledge and skills. They depend on students achieving facility and fluency in foundation knowledge in the disciplines. They assume that students have achieved mastery of the knowledge and skills delineated in the Texas Essential Knowledge and Skills (TEKS). Establishing a clear connection between the TEKS and the CCRS is a crucial component of system alignment that will result in more students being ready for college.



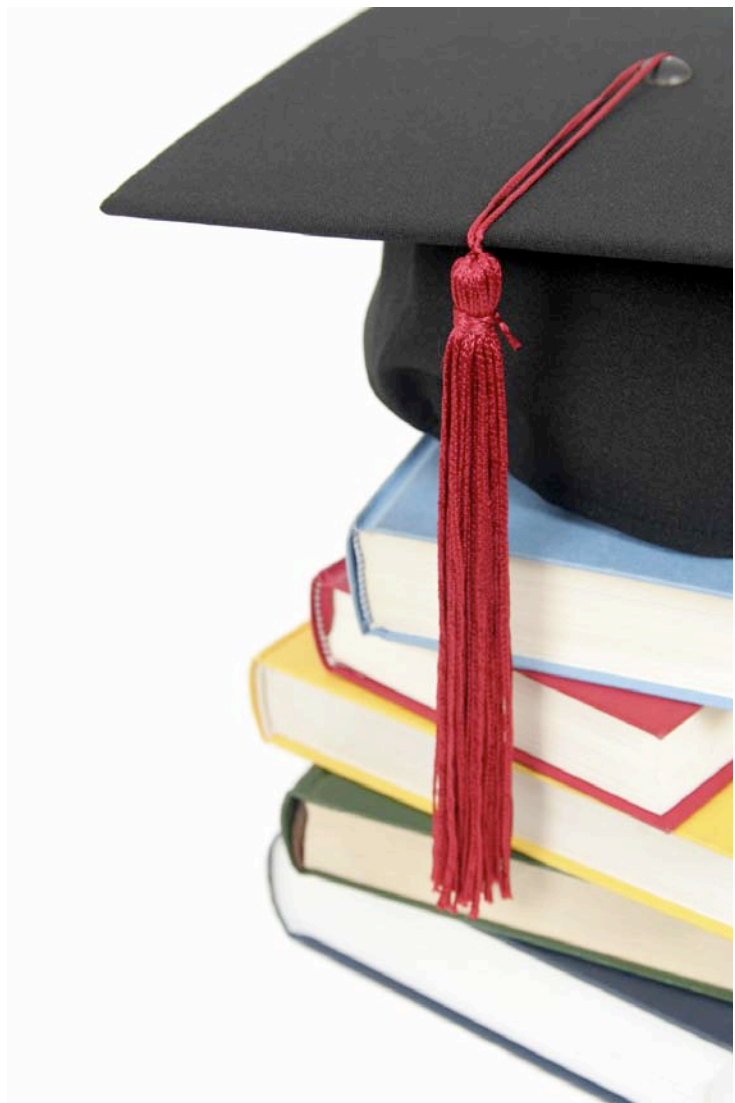
“Generally, the more standards a student can demonstrate successfully, the more likely it is that he or she will be college and career ready.”

The final section of the CCRS contain cross-disciplinary, foundational cognitive skills that may be as important as any particular content knowledge. Some of these skills, such as problem solving, are also contained within specific subject areas, but they are given additional emphasis by their inclusion in the separate cross-disciplinary standards section. Research on entry-level college courses conducted with thousands of college instructors has confirmed both the importance of these skills in entry-level courses as well as the significant shortcomings entering students demonstrate in these areas.

Organization of the College and Career Readiness Standards Framework

One additional point should be made. In delineating the knowledge and skills necessary for college and career readiness, the CCRS do not specify the performance levels necessary to demonstrate competence. Without examples of course syllabi, assignments, and student work to illustrate when or how a standard is met, some standards could conceivably be interpreted to be at a level that would challenge graduate students. Obviously, this is not the intent of the CCRS. The expectations inherent in each standard are keyed to what high school students can be expected to accomplish by the time they complete high school. Examples of course material that illustrate the necessary performance level for each standard will be made available as the CCRS are implemented.

In developing these standards, members of the vertical teams and staff at the TEA and the THECB were fully aware that not all high school graduates plan to go to college. However, a survey of the research on readiness for entry into the skilled workforce makes it clear that employers want their young employees to be able to read and communicate well, to perform relatively complex mathematical calculations accurately, to possess a strong knowledge of basic science, to have a fundamental knowledge of American culture and the world beyond, and to be able to think critically and adjust to rapidly-changing work environments. Because these college and career readiness standards focus precisely on a strong foundation of knowledge and intellectual skills, including intellectual nimbleness and adaptability, they will serve equally well those students heading to college and those to the workforce.



Organization of the College and Career Readiness Standards

Organization

The goal of the Texas CCRS is to establish what students must know and be able to do to succeed in entry-level courses offered at institutions of higher education. These CCRS are organized into four levels of specificity. The levels are defined and will appear as follows:

I. Key Content: Keystone *ideas of a discipline that reverberate as themes throughout the curriculum. (Designated by roman numerals.)*

A. Organizing components: Knowledge and subject areas that organize a discipline around what students should retain, be able to transfer, and apply to new knowledge and skills. (Designated by capital letters.)

1. Performance Expectations: Knowledge and skills that represent important ideas of the current understanding of each organizing concept as well as the multiple contexts in which each organizing concept can be manifest. (Designated by numbers.)

a. Examples of Performance Indicators:
Examples of how to assess and measure performance expectations. This list of indicators is not meant to be either EXHAUSTIVE or PRESCRIPTIVE. The operating premise is that the more of these or other similar indicators a student is successfully able to demonstrate, the increased probability that the student will be prepared to succeed in college or the workforce. (Designated by lowercase letters and shading and included in the appendix of this document.)

examples



English/Language Arts Standards



ENGLISH/LANGUAGE ARTS STANDARDS

Introductory Narrative

English as a Way of Knowing

Listening, speaking, writing, and reading are vehicles for communication. They enable people to express their thoughts and demonstrate what they have learned. In the past, students were taught specific lessons under the rubric of language, and the skills were practiced, reinforced, and analyzed throughout the day in subjects such as geography, history, and science. Today the teaching of language arts is often considered the exclusive responsibility of English teachers. However, the complex role of language in education makes it clear that the language arts cannot be left entirely to the English class. Improvement in the language arts requires students to read and write frequently in all disciplines and to receive ample feedback. Following these standards, the language arts should be viewed as being fundamental to pedagogy in any subject.

English teachers have the expertise to ask, explore, and help students answer fundamental questions about language, among them:

- How does one convey a message in writing?
 - What genres are most suitable in a given context, and what are the textual features of those genres?
 - What is Standard American English?
 - How might one become a more skillful reader who can understand both the text's surface and deeper meanings?
 - What shared and unique features characterize specific literary genres?
 - What are significant texts in American, British, and world literature, and what might they reveal about their cultural and historical contexts?
- What are the characteristics of effective listening and speaking, and how might one acquire and improve them?

English is mastered in the context of challenging content that requires students to think deeply and to exercise discipline in order to demonstrate understanding, raise questions, and present ideas.

Understanding and Using These Standards

Vertical Team (VT) members reviewed research on the skills and content knowledge students need to succeed in college; they also examined exemplary College and Career Readiness Standards (CCRS) and state and national standards in English. As members of the Commission for a College and Career Ready Texas (CCRT), the VT co-chairs studied reports and heard expert testimony. The VT's first draft was posted for public comment in October 2007 by the Texas Higher Education Coordinating Board (THECB). Concurrently, the VTs revised the standards in response to feedback from the CCRT, and this second draft was incorporated into the Report of the CCRT. The standards adopted by the THECB incorporate revisions based on the feedback to both public documents.

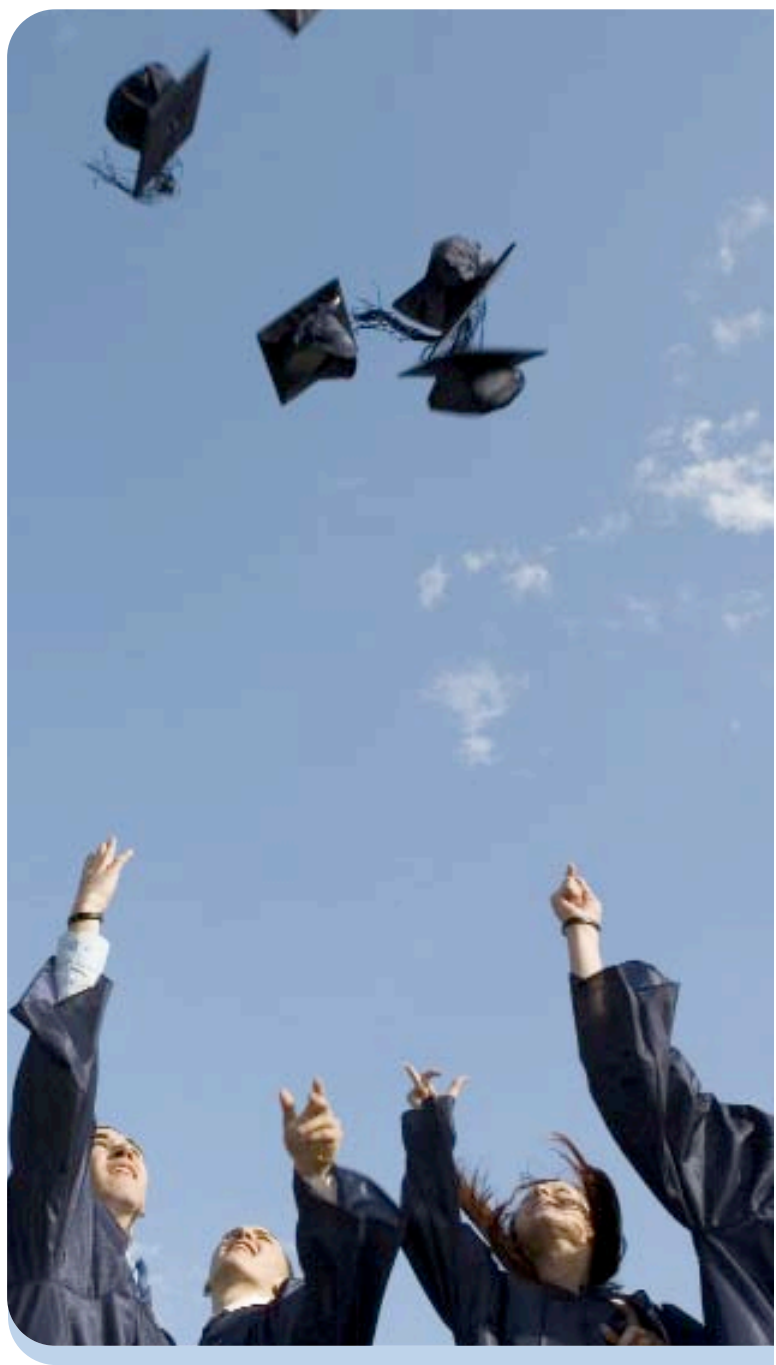
These standards are designed to be straightforward and easy to read. The VT members sought to avoid redundancy, wordiness, or specialized terminology. The danger with this approach is that even though each statement may be simple, the underlying meaning may not. The mastery level necessary on any particular standard depends on the specific task faced by the student.

ENGLISH/LANGUAGE ARTS STANDARDS

In other words, the standards can be fully understood only in the context of the learning materials or assignments with which the student is presented.

In this document, the rules of Standard American English are embedded into the writing process because a student must use language correctly in order to be college and career ready. For example, it would be highly unusual for a student to be given a multiple-choice test on parts of speech in a first-year English class in college. These rules are also contained in the cross-disciplinary standards to indicate the need for students to be able to use grammar and punctuation correctly in all subject areas. Another reason that mechanics and usage are not separated from the writing process is that the context of communication—what educators and scholars call the *rhetorical situation*—determines what is appropriate and what is effective. Because language is employed in a wide range of situations, skillful users of language must know how to interpret and express themselves in a variety of forms and formats. Therefore, the standards address the full range of American English, allowing for the possibility that language can be used appropriately in many different formats and that students must have mastery of the rules associated with those formats and know when and how to apply those rules.

Because the language arts are present throughout the core curriculum, standards for the language arts appear in two places in this document—as elements of the cross-disciplinary standards fundamental to all subjects and as a stand-alone subject.



ENGLISH/LANGUAGE ARTS STANDARDS

I. Writing

- A. Compose a variety of texts that demonstrate clear focus, the logical development of ideas in well-organized paragraphs, and the use of appropriate language that advances the author's purpose.
1. Determine effective approaches, forms, and rhetorical techniques that demonstrate understanding of the writer's purpose and audience.
 2. Generate ideas and gather information relevant to the topic and purpose, keeping careful records of outside sources.
 3. Evaluate relevance, quality, sufficiency, and depth of preliminary ideas and information, organize material generated, and formulate a thesis.
 4. Recognize the importance of revision as the key to effective writing. Each draft should refine key ideas and organize them more logically and fluidly, use language more precisely and effectively, and draw the reader to the author's purpose.
 5. Edit writing for proper voice, tense, and syntax, assuring that it conforms to standard English, when appropriate.

II. Reading

- A. Locate explicit textual information, draw complex inferences, and analyze and evaluate the information within and across texts of varying lengths.
1. Use effective reading strategies to determine a written work's purpose and intended audience.
 2. Use text features and graphics to form an overview of informational texts and to determine where to locate information.
 3. Identify explicit and implicit textual information including main ideas and author's purpose.
 4. Draw and support complex inferences from text to summarize, draw conclusions, and distinguish facts from simple assertions and opinions.
 5. Analyze the presentation of information and the strength and quality of evidence used by the author, and judge the coherence and logic of the presentation and the credibility of an argument.
 6. Analyze imagery in literary texts.
 7. Evaluate the use of both literal and figurative language to inform and shape the perceptions of readers.
 8. Compare and analyze how generic features are used across texts.
 9. Identify and analyze the audience, purpose, and message of an informational or persuasive text.
 10. Identify and analyze how an author's use of language appeals to the senses, creates imagery, and suggests mood.

ENGLISH/LANGUAGE ARTS STANDARDS

11. Identify, analyze, and evaluate similarities and differences in how multiple texts present information, argue a position, or relate a theme.

B. Understand new vocabulary and concepts and use them accurately in reading, speaking, and writing.

1. Identify new words and concepts acquired through study of their relationships to other words and concepts.
2. Apply knowledge of roots and affixes to infer the meanings of new words.
3. Use reference guides to confirm the meanings of new words or concepts.

C. Describe, analyze, and evaluate information within and across literary and other texts from a variety of cultures and historical periods.

1. Read a wide variety of texts from American, European, and world literatures.
2. Analyze themes, structures, and elements of myths, traditional narratives, and classical and contemporary literature.
3. Analyze works of literature for what they suggest about the historical period and cultural contexts in which they were written.
4. Analyze and compare the use of language in literary works from a variety of world cultures.

D. Explain how literary and other texts evoke personal experience and reveal character in particular historical circumstances.

1. Describe insights gained about oneself, others, or the world from reading specific texts.
2. Analyze the influence of myths, folktales, fables, and classical literature from a variety of world cultures on later literature and film.

III. Speaking

A. Understand the elements of communication both in informal group discussions and formal presentations (e.g., accuracy, relevance, rhetorical features, organization of information).

1. Understand how style and content of spoken language varies in different contexts and influences the listener's understanding.
2. Adjust presentation (delivery, vocabulary, length) to particular audiences and purposes.

B. Develop effective speaking styles for both group and one-on-one situations.

1. Participate actively and effectively in one-on-one oral communication situations.
2. Participate actively and effectively in group discussions.
3. Plan and deliver focused and coherent presentations that convey clear and distinct perspectives and demonstrate solid reasoning.

ENGLISH/LANGUAGE ARTS STANDARDS

IV. Listening

A. Apply listening skills as an individual and as a member of a group in a variety of settings (e.g., lectures, discussions, conversations, team projects, presentations, interviews).

1. Analyze and evaluate the effectiveness of a public presentation.
2. Interpret a speaker's message; identify the position taken and the evidence in support of that position.
3. Use a variety of strategies to enhance listening comprehension (e.g., focus attention on message, monitor message for clarity and understanding, provide verbal and nonverbal feedback, note cues such as change of pace or particular words that indicate a new point is about to be made, select and organize key information).

B. Listen effectively in informal and formal situations.

1. Listen critically and respond appropriately to presentations.
2. Listen actively and effectively in one-on-one communication situations.
3. Listen actively and effectively in group discussions.

V. Research

A. Formulate topic and questions.

1. Formulate research questions.
2. Explore a research topic.
3. Refine research topic and devise a timeline for completing work.

B. Select information from a variety of sources.

1. Gather relevant sources.
2. Evaluate the validity and reliability of sources.
3. Synthesize and organize information effectively.
4. Use source material ethically.

C. Produce and design a document.

1. Design and present an effective product.
2. Use source material ethically.

Cross-Disciplinary Standards



CROSS-DISCIPLINARY STANDARDS

Foundations of Learning and Knowing

Although the College and Career Readiness Standards (CCRS) are organized into four distinct disciplinary areas, English/language arts, mathematics, science, and social studies, there are elements that cut across one or more disciplines. In fact, some skill areas span all four subject areas. It is important to identify the cross-cutting knowledge and skills that underlie and connect the four disciplinary areas. This important need has been addressed through the addition of a section addressing cross-disciplinary standards.

Think of cross-disciplinary standards as tools that college instructors in all areas use to challenge, engage, and evaluate students in each specific subject area. They include key cognitive strategies, such as reasoning, problem solving, and conducting research, as well as foundational skills, such as reading, writing, and data analysis.

Many of these skills are also taught within the context of a single subject area. Reading and writing are excellent examples of subject areas where this occurs. While the primary responsibility for developing reading and writing skills in secondary school resides within English/language arts courses, first-year college students are expected to employ a range of subject-specific reading and writing strategies and techniques in all of their courses. For example, they will write a lab report in a biology class or read primary source documents in a history class.

Academic and business leaders emphasize the importance of being able to apply these skills across a variety of contexts and subject matter. They describe 21st Century learning and work environments in which the cross-disciplinary skills are prerequisites to solving many of the most important problems students will encounter in college and the workplace. These problems increasingly require applying knowl-

edge across disciplines and subject areas and the mastery of a base set of communication and analysis skills that span subject areas. Students, then, not only need to possess content knowledge, but also need to be able to apply key cognitive strategies to the academic tasks presented to them, most of which require much more than simple recall of factual knowledge. These cross-disciplinary standards enable students to engage in deeper levels of thinking across a wide range of subjects. They help high school students prepare for the transition from high school's primary focus on acquiring content knowledge to a post-secondary environment in which complex cognitive skills are necessary to achieve deeper understanding.

Understanding and Using The Cross-Disciplinary Standards

The cross-disciplinary standards are organized into two major areas: Key Cognitive Skills and Foundational Skills. The Key Cognitive Skills specify intellectual behaviors that are prevalent in entry-level college courses. The list includes intellectual curiosity, reasoning, problem solving, academic behaviors, work habits, and academic integrity. Foundational Skills consist of proficiencies students need to be able to transfer knowledge and apply it across the curriculum. These include reading, writing, conducting research, understanding and using data, and using technology.

The first three levels of the cross-disciplinary standards, the key content, the organizing components, and the performance expectations, are written to apply across subject areas. The performance indicators, however, illustrate how the cross-disciplinary standards are manifested within the subject areas. The Vertical Teams created an example in each subject area of at least one performance indicator that could be applied in that subject area. These indicators are meant to exemplify how the cross-disciplinary standards could be demonstrated in all subject areas.

CROSS-DISCIPLINARY STANDARDS

I. Key Cognitive Skills

A. Intellectual curiosity

1. Engage in scholarly inquiry and dialogue.
2. Accept constructive criticism and revise personal views when valid evidence warrants.

B. Reasoning

1. Consider arguments and conclusions of self and others.
2. Construct well-reasoned arguments to explain phenomena, validate conjectures, or support positions.
3. Gather evidence to support arguments, findings, or lines of reasoning.
4. Support or modify claims based on the results of an inquiry.

C. Problem solving

1. Analyze a situation to identify a problem to be solved.
2. Develop and apply multiple strategies to solve a problem.
3. Collect evidence and data systematically and directly relate to solving a problem.

D. Academic behaviors

1. Self-monitor learning needs and seek assistance when needed.
2. Use study habits necessary to manage academic pursuits and requirements.
3. Strive for accuracy and precision.
4. Persevere to complete and master tasks.

E. Work habits

1. Work independently.
2. Work collaboratively.

F. Academic integrity

1. Attribute ideas and information to source materials and people.
2. Evaluate sources for quality of content, validity, credibility, and relevance.
3. Include the ideas of others and the complexities of the debate, issue, or problem.
4. Understand and adhere to ethical codes of conduct.

II. Foundational Skills

A. Reading across the curriculum

1. Use effective prereading strategies.
2. Use a variety of strategies to understand the meanings of new words.
3. Identify the intended purpose and audience of the text.
4. Identify the key information and supporting details.
5. Analyze textual information critically.
6. Annotate, summarize, paraphrase, and outline texts when appropriate.
7. Adapt reading strategies according to structure of texts.
8. Connect reading to historical and current events and personal interest.

CROSS-DISCIPLINARY STANDARDS

B. Writing across the curriculum

1. Write clearly and coherently using standard writing conventions.
2. Write in a variety of forms for various audiences and purposes.
3. Compose and revise drafts.

C. Research across the curriculum

1. Understand which topics or questions are to be investigated.
2. Explore a research topic.
3. Refine research topic based on preliminary research and devise a timeline for completing work.
4. Evaluate the validity and reliability of sources.
5. Synthesize and organize information effectively.
6. Design and present an effective product.
7. Integrate source material.
8. Present final product.

D. Use of data

1. Identify patterns or departures from patterns among data.
2. Use statistical and probabilistic skills necessary for planning an investigation and collecting, analyzing, and interpreting data.
3. Present analyzed data and communicate findings in a variety of formats.

E. Technology

1. Use technology to gather information.
2. Use technology to organize, manage, and analyze information.
3. Use technology to communicate and display findings in a clear and coherent manner.
4. Use technology appropriately.