

AS OF JUNE 20, 2010,
THIS STATE HAD ADOPTED
THE COMMON CORE
STATE STANDARDS.

Kentucky • English Language Arts

DOCUMENTS REVIEWED

Combined Curriculum Document: Reading, Listening, Writing, by Grade-Level. 2006.

Accessed from: <http://www.education.ky.gov/kde/instructional+resources/curriculum+documents+and+resources/teaching+tools/combined+curriculum+documents>

Overview

The Kentucky ELA standards are confusingly organized and laced with vague or overly general expectations that fail to show a clear progression of rigor from one grade to the next. The standards for high school resemble those for middle school. At times the standards seem to represent a perpetual remedial course.



Clarity and Specificity: 1/3

Content and Rigor: 3/7

Total State Score: 4/10

(Common Core Grade: B+)

General Organization

Kentucky's standards are organized into three broad categories: state learning goals, academic expectations, and programs of study. How these three elements work together is complicated.

First, there are six learning goals that are said to describe the state's "vision of what students should know and be able to do as a result of their school experience." These six statements transcend grade levels and subject areas—for example, "[s]tudents shall develop their abilities to think and solve problems in school situations and in a variety of situations they will encounter in life"—but are intended to serve as the foundation upon which the grade- and subject-specific standards and assessments are built.

The learning goals are then broken into approximately sixty "academic expectations," some of which are particular to math or ELA, others written broadly enough to apply to several subjects. These academic expectations are designed to "characterize student achievement of the goals." For example, "students make sense of the variety of materials they read."

Finally, the academic expectations are broken down into grade-specific "programs of study," which outline the "understandings" and "content and skills" that students should master.

For ELA, there are three programs of study: reading; writing; and speaking, listening, and observing. Across all three programs of study, standards are provided for the "primary" level, where expectations for what students should know and be able to do at the end of third grade are provided, and then for each grade, 4-8.

In high school, the state provides grade-specific expectations in writing only. In reading, standards are provided for grades 9, 10, and 11-12. For speaking, listening, and observing, high school standards are provided at two grade spans: 9-10 and 11-12.

Clarity and Specificity

While Kentucky presents reasonably clear standards in a few areas—e.g., when outlining expectations for oral presentations—the vast majority of the state's ELA standards are written in vague language that describes what students should know and be able to do only in generic terms laced with convoluted language and jargon.

In one sixth-grade standard, for example, students are asked to "communicate through authentic transactive purposes for writing," which it parenthetically described as "informing, describing, persuading and analyzing." A related

standard requires students to generate ideas by using “reading, journaling, mapping, webbing, note-taking, interviewing, researching, other writing-to-learn activities.” Unfortunately, these two examples, like so many of the standards in the Kentucky framework, provide no further detail to clarify expectations about what, precisely, students should master through such activities or in each writing genre.

In reading, the standards provide only general expectations for reading and analyzing literary texts, and the language is often vague and plagued by an overwhelming emphasis on “strategies.” Here’s an example:

Students will use comprehension strategies while reading, listening to, or viewing literary and informational texts (e.g., using prior knowledge, previewing text selections, making predictions, generating questions, constructing sensory images, using text features, making connections, determining importance of information) (grades K-3)

While the expectations for reading and analyzing informational texts are marginally more complete, they do not go far enough to make up for the overwhelming number of vague, general, or otherwise unclear standards in the Kentucky framework. Consequently, Kentucky’s ELA standards can earn no higher than a one point out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Content Strengths

The Kentucky ELA standards include specific criteria for evaluation of oral presentations and reasonably clear expectations for speaking, listening, and observing skills (though the latter could be improved by demonstrating a clearer progression of skills from grade to grade).

In addition, the standards delineate grammatical knowledge students should master in grades 4-8. For example:

- Students will apply knowledge of subject/verb agreement with both singular and plural subjects
- Students will apply knowledge of present, past and future verb tenses
- Students will apply knowledge of comparative and superlative forms of adjectives and adverbs
- Students will apply knowledge of special problems in usage (e.g., a/an, to/two/too, their/there/they’re) and pronoun references and double negatives
- Students will correct run-on or awkward sentences
- Students will correct sentence fragments (grade 5)

The high school grammar standards are similarly detailed, although some of them are repetitive and there is no clear progression from one grade to the next.

As noted above, Kentucky also specifies the important genres of writing students should study. These standards could be strengthened, however, by providing additional detail about the genre-specific content students must master and by more clearly demonstrating how student writing is expected to increase in sophistication from grade to grade.

Content Weaknesses

Despite the few bright spots mentioned above, the Kentucky standards have much room for improvement.

For starters, the standards make no reference to works of literature and nonfiction reading. In fact, across grades K-8, there is no mention of *any* literature whatsoever. At the high school level, there is passing mention of foundational U.S. documents, as shown in this grade 9 example:

Students will understand that different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works, and foundational U.S. documents (grade 9)

While the standards list numerous important reading skills, they provide little elaboration and no examples that would help teachers understand the essential content that students must master across each grade level.

Across grades 5-12, research is mentioned only in passing and there is no indication that students will write serious research papers. (In fact, at the middle school level, research is described only as a “writing-to-learn” activity.)

The standards do not describe expectations for phonemic awareness, phonics, fluency, or comprehension skills, except in the most general terms, as shown in the K-3 example below:

Students will understand that knowing how letters are linked to sounds to form letter-sound correspondence and spelling patterns can help determine unfamiliar words while reading (grades K-3)

At the elementary level, the standards mention synonyms, antonyms, prefixes, suffixes, etc., but they mix them in with standards “reading strategies” rather than providing a clear focus on essential vocabulary development. At the middle and high school level, vocabulary development is given scant attention and only in the context of learning “word recognition strategies.”

Taken together, these serious shortcomings leave more than 50 percent of the essential ELA content missing. As such, Kentucky’s standards can earn no higher than a three points out of seven for Content and Rigor. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

With their grade of D, Kentucky’s ELA standards are among the worst in the country, while those developed by the Common Core State Standards Initiative earn a solid B-plus. The CCSS ELA standards are significantly superior to what the Bluegrass State has in place today.

Kentucky • Mathematics

DOCUMENTS REVIEWED

Combined Curriculum Document, Mathematics. 2006.

Accessed from: <http://www.education.ky.gov/KDE/Instructional+Resources/Curriculum+Documents+and+Resources/Teaching+Tools/Combined+Curriculum+Documents/default.htm>

Overview

The organization of Kentucky's standards is difficult to understand and often incoherent. In addition, the standards are often vaguely stated. Arithmetic is not identified as an elementary school priority and is developed poorly. The coverage of high school content is variable.



Clarity and Specificity: 1/3

Content and Rigor: 2/7

Total State Score: 3/10

(Common Core Grade: A-)

General Organization

The K-12 standards are organized by five content strands (called "Big Ideas"), such as Geometry and Algebraic Thinking. These content strands include introductions that change every few grade levels to reflect developmental changes as grades progress. The strands include at least two "academic expectations," and underneath these expectations are three additional categories: "Understandings," "Skills and Concepts," and "Related Core Content for Assessment." It is not clear how these categories relate to the academic expectations.

For example, in fifth grade, one Big Idea is Algebraic Thinking; it is followed by three academic expectations—one of which is, "[s]tudents understand various mathematical procedures and use them appropriately and accurately." Underneath this expectation is this Understanding: "Students will understand that patterns, relations and functions are tools that help explain or predict real-world phenomena." Beside that is a Skill and Concept which reads: "Students will create, recognize, extend, find and write rules for patterns." Finally, the accompanying Related Core Content for Assessment reads: "Students will extend patterns, find the missing term(s) in a pattern or describe rules for patterns (numbers, pictures, tables, words) from real-world and mathematical problems."

Standards for grades K-3 are combined and presented as the "Primary" level. High school is organized the same way except that there is only one grade level: high school. Grades 4-8 are presented individually.

Clarity and Specificity

The organization of the document is confusing. Though the standards are often short and easy to read, there are an excessive number of them and their placement and naming is not always clear. Some standards are repeated since they correspond to more than one Understanding. The Skills and Concepts standards and the Related Core Content for assessment are sometimes the same, sometimes differ minimally, and sometimes are quite different. For example, in the following list of standards, the first two are included as Skills and Concepts and these appear right before an assessment standard.

Students will identify and graph ordered pairs on a positive coordinate system (grade 4)

Students will locate points on a grid (grade 4)

Students will identify and graph ordered pairs on a positive coordinate system scaled by ones or locate points on a grid (grade 4)

Despite the confusing organization, many of the standards are clear and specific.

However, many others are not clear *or* specific. One phrase that pervades the standards is “real-world.” There are many “real-world” quantities, problems, phenomena, and situations in Kentucky’s standards. These are considered distinct from mathematical quantities and problems, as illustrated by the following standard:

Students will read, write and rename whole numbers, fractions and decimals, and apply to real-world and mathematical problems (grade 4)

Presumably the kinds of real-world problems that students are expected to solve change as they progress through the grades, but the standards are not specific about this progression. The “real world,” then, appears to take on a vague and nebulous form in the Bluegrass State.

Another issue with the clarity of the standards is with the use of the word “explore.” Many standards begin with the phrase “students will explore,” as in the following:

Students will explore the use of simple ratios to describe problem situations (grade 4)
Students will explore the role of probability in decision making (grade 6)

It is not clear what students are supposed to know or what kinds of problems they are expected to solve when “explore” is the action verb.

Although there are many clear and easy-to-understand standards, many are unclear and the overall organization of Kentucky’s standards is unnecessarily complex. The standards provide “limited guidance to users” (see *Common Grading Metric*, Appendix A) and therefore receive one point out of three for Clarity and Specificity.

Content and Rigor

Content Priorities

Kentucky does not provide explicit guidance as to what content is the most important. The number of standards in each grade is excessive, so some guidance as to what standards are essential is crucial. Priorities are set implicitly in that fewer than 30 percent of the elementary school standards are devoted to arithmetic, which does not sufficiently prioritize it.

Content Strengths

The structure of arithmetic is covered well, including commutativity, associativity, and distributivity.

In high school, the coverage of geometry is sometimes rigorous. Proof of basic theorems is included, and the axiomatic development of geometry is mentioned:

Students will explore geometries other than Euclidean geometry, in which the parallel postulate is not true (high school)

A crucial STEM-ready standard is also stated clearly:

Students will add, subtract, multiply, divide and simplify rational expressions (high school)

Content Weaknesses

The development of whole-number arithmetic is weak. Instant recall of basic facts is not specified. No mention at all is made of single-digit addition (and corresponding subtraction) facts. For multiplication and division, there is the insufficient:

Students will multiply whole numbers through 10×10 (primary)

The continued development of whole-number arithmetic is weak. Neither fluency nor standard algorithms are required by the standards. The capstone standard for whole-number arithmetic is:

Students will develop and apply computational procedures to add, subtract, multiply and divide whole numbers using basic facts and technology as appropriate (grade 5)

Requiring students to develop their own procedures and rely on technology “as appropriate” does not ensure that they’ll have the requisite fluency with arithmetic.

The continued development of arithmetic is equally weak. Common denominators are not mentioned. Standard methods and procedures are not specified, and the use of calculators—which can undermine competency in arithmetic if not used appropriately—is made even more explicit, as in:

Students will develop addition, subtraction, multiplication and division of common fractions and decimals with manipulatives and symbols (e.g., mental computation, paper and pencil, calculators) (grade 6)

High school, though strong in places, is missing much of the essential content. For quadratic equations, there is no mention of completing the square or the use of the quadratic formula. There is also little trigonometry in the standards.

Kentucky does have many good standards, and some of the coverage is rigorous. However, the standards do not set arithmetic as a priority and they do not cover basic arithmetic well. High school content, while sometimes strong, is missing much of the essential material. These “serious problems, shortcomings, or errors” (see *Common Grading Metric*, Appendix A) result in a Content and Rigor score of two points out of seven.

The Bottom Line

With their grade of D, Kentucky’s mathematics standards are among the worst in the country, while those developed by the Common Core State Standards Initiative earn an impressive A-minus. The CCSS math standards are vastly superior to what the Bluegrass State has in place today.