

Arizona • English Language Arts

DOCUMENTS REVIEWED¹

Reading Standard Articulated by Grade Level. March 31, 2003.

Accessed from: <http://www.ade.state.az.us/standards/language-arts/>

Writing Standard Articulated by Grade Level. June 28, 2004.

Accessed from: <http://www.ade.state.az.us/standards/language-arts/>

Standard 3: Listening/Speaking. July 8, 1996.

Accessed from: <http://www.ade.state.az.us/standards/language-arts/>

Standard 4: Viewing/Presenting. July 8, 1996.

Accessed from: <http://www.ade.state.az.us/standards/language-arts/>

Overview

The Arizona ELA standards are well written, specific, and thorough, and the organization is user-friendly. Some areas need improvement, but the overall coverage of content and skills is quite good.



Clarity and Specificity: 2/3

Content and Rigor: 5/7

Total State Score: 7/10

(Common Core Grade: B+)

General Organization

Arizona's ELA grade-by-grade standards are divided into four areas: Reading, Writing, Listening/Speaking, and Viewing/Presenting. In Reading and Writing, the standards are broken into "strands," then into "concepts," and then into "performance objectives." Each layer provides an additional level of detail that further defines student expectations. Grade-by-grade standards are also presented all together in one separate chart that shows how the content and skills build upon one another in successive years.

The Listening/Speaking and Viewing/Presenting standards have been retained from an earlier (1996) iteration of the state's standards. They are organized into grade spans: K, 1-3, 4-8, and 9-12. In short, the organization of the standards is clear and user-friendly.

Clarity and Specificity

The Arizona standards are mostly clear and specific. Repetition of standards within some strands, however, weakens the overall effectiveness of the document, as does some unclear language.

In Writing, especially, standards repeat sometimes verbatim at many different grade levels, such as this one which appears in grades 6, 7, and 8:

Develop a sufficient explanation or exploration of the topic (grades 6-8)

This standard, which is vague to begin with, should look different at grade 6 than at grade 8, and the document should provide more specific guidance, perhaps by genre. Including annotated samples of acceptable student writing would also help to illustrate the content and quality of student writing expectations.

Similarly vague standards appear from time to time in the Arizona framework. For example, consider the following fifth-grade reading expectation:

Describe the historical and cultural aspects found in cross-cultural works of literature (grade 5)

Or this “viewing and presenting” standard from grade span 4-8:

Compare, contrast and establish criteria to evaluate visual media for purpose and effectiveness (grades 4-8)

This Kindergarten reading comprehension standard is confusing:

Determine whether a literary selection, that is heard, is realistic or fantasy (Kindergarten)

Realism and fantasy are not opposites, nor are they mutually exclusive. Aspects of fantasy can in fact be realistic. This false dichotomy is repeated in various forms in higher grades. That said, such linguistic shortcomings are easily fixed.

Since the standards are “somewhat lacking in coherence, clarity, or organization” (see *Common Grading Metric*, Appendix A), they receive two points out of three for Clarity and Specificity.

Content and Rigor

Content Strengths

Arizona’s Reading standards are generally strong. The early reading standards cover all areas identified in the *English Language Arts Content-Specific Criteria* (see Appendix A): phonemic awareness, phonics, fluency, and comprehension. Students must “decode words, using knowledge of phonics, syllabication, and word parts.” Context clues are not emphasized in the early grades.

Arizona addresses vocabulary systematically and its development starts early, with word categories in Kindergarten, contractions and compound words in grade 1, prefixes and suffixes in grade 2, and dictionary use in grade 3. As the standards unfold, the vocabulary thread progresses with rigor through high school and even includes a welcome dose of etymology—in which students are to “[d]raw inferences about the meaning of new vocabulary, based on knowledge of linguistic roots and affixes (e.g., Latin, Greek, Anglo-Saxon).”

Literary and informational texts are treated distinctly, and both categories are addressed thoroughly. Structures and elements of both literary and non-literary text types are addressed. Informational text is broken into three categories (expository, functional, and persuasive texts), making it easy to understand how reading strategies vary across them. The standards for informational text progress logically. They include specific standards related to arguments, which require students, for example, to cite important aspects of reasoning and rhetorical techniques.

The Arizona Writing standards are also thorough. They address the writing process, “elements” of good writing (including grammar), and writing “applications,” which expect students to understand how genres of writing (expressive, expository, persuasive, etc.) manifest in various products (e.g., speech, editorial, business letter, poem, etc.). Research is also systematically addressed, and the standards are cross-referenced with the standards for informational text, which allows reinforcement of these two related sets of expectations.

Content Weaknesses

Arizona’s Reading standards address American literature and American literary heritage only in the eleventh grade (in strand 2, “Comprehending Literary Text”):

Analyze culturally or historically significant literary works of American literature that reflect our major literary periods and traditions (strand 2, grade 11)

This examination could be strengthened by similar focus on American literature in other grades. Furthermore, students and teachers would benefit if the state were to define the quality and complexity of reading expected at each grade level via the use of reading lists.

The Writing standards, while commendable, attempt to do too much. Students are unnecessarily required to write in all genres at all grades. Students should not, for instance, be required to write personal narratives in every grade level. Some prioritization of writing genres by grade level is needed.

Arizona’s standards for Listening/Speaking, organized by grade span only, are missing essential standards for one-to-one and group discussions. Revising the standards to include grade-specific expectations would likely force incorporation of some of this missing content. More thorough expectations for formal oral presentations would also be welcome.

The standards for Viewing/Presenting read like the “media” standards in many states, though they are outdated by now, having been written in 1996. For example:

Plan, organize, develop, produce and evaluate an effective multimedia presentation, using tools such as charts, photographs, maps, tables, posters, transparencies, slides and electronic media (grades 9-12)

Surely, today’s multimedia presentations should include more Internet and video footage, and fewer posters and transparencies! Updating these standards would be advisable, as would delineating them by grade. Particular attention should be paid to cross-referencing them with the research strand, as it is done in the writing standards.

Though most of Arizona’s standards are strong, some crucial content is missing and some is covered in a manner that is less than satisfactory (see *Common Grading Metric*, Appendix A); thus they receive five points out of seven for Content and Rigor.

The Bottom Line

Arizona treats literary and non-literary texts distinctly and thoroughly and in more detail than the Common Core. Genres, sub-genres, and the characteristics of both literary and non-literary text types are addressed. Informational text is broken into three categories, making it easy to understand how reading strategies vary among them.

On the other hand, the Common Core standards more thoroughly address listening and speaking skills, and they include samples of student writing to clarify grade- and genre-specific writing expectations. Common Core also includes a list specifying the quality and complexity of student reading as well as sample student writing. Such enhancements would significantly improve Arizona’s standards.

¹ Arizona’s academic standards have not changed since Fordham’s last evaluation, the *State of State English Standards 2005*. However, the evaluation criteria that we used to judge the 2010 standards have been substantially revised and improved since 2005. (See Appendix C for a complete explanation of changes in criteria.) Even through this new lens, Arizona’s ELA grade remained a B. The complete 2005 review can be found here: http://www.edexcellence.net/detail/news.cfm?news_id=337&pubsubid=1032#1032.

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

Arizona • Mathematics

DOCUMENTS REVIEWED

Arizona Academic Content Standards: Mathematics. June 24, 2008. Accessed from: <http://www.ade.state.az.us/standards/math/Articulatedo8/MathematicsStandard2008.pdf>

Mathematics Standards Articulated by Grade Level, with Explanations and Examples. June 24, 2008. Accessed from: <http://www.ade.state.az.us/standards/math/Articulatedo8/>

Overview

Arizona's standards are generally strong. They are well presented and often include sample problems to enhance clarity. But a serious weakness in these standards is their coverage of arithmetic, which is neither prioritized nor appropriately culminated.



Clarity and Specificity: 3/3
Content and Rigor: 4/7
Total State Score: 7/10
(Common Core Grade: A-)

General Organization

Arizona's standards are divided into five content strands, such as "Geometry and Measurement." Each strand is subdivided into topics called "Major Concepts," and then further separated into grade-level "performance objectives." These performance objectives are what we refer to as standards in this analysis.

One of the five strands, "Structure and Logic," is actually a process strand that is primarily focused on skills, such as problem-solving and reasoning. The skills outlined in this strand are meant to be integrated across all content strands.

The high school standards follow the same organization but combine grades 9-10 and 11-12.

Clarity and Specificity

The standards are well presented: They are generally concise, comprehensible, and easy to read. The "Explanations and Examples" are often quite specific and serve to clarify the standards. The use of sample problems is an excellent feature, demonstrating for the reader exactly what kinds of problems students are expected to be able to do. For example, the following fifth-grade standard is broadly stated and the intent is subject to interpretation:

Use ratios and unit rates to model, describe and extend problems in context (grade 5)

But the explanatory material for this standard includes sample problems, which helps reveal what a student is expected to know:

If you can travel 20 miles in 4 hours on a bicycle, what is the unit rate (the distance you can travel in 1 hour)? (grade 5)

While the standards are generally clear, the explanatory material is not always specific enough to provide sufficient clarification. For example, consider the third-grade standard:

Demonstrate fluency of multiplication and division facts through 10 (grade 3)

It is not clear if fluency means fluency with instant recall or fluency with computation. The distinction is important, as students who do not have instant recall will be at a serious disadvantage as they continue learning multiplication. The additional explanatory material could have served to clarify the intent of the standard, but it is, unfortunately, equally unclear:

Fact fluency includes working with facts flexibly, accurately, and efficiently. This means that students have quick recall using strategies that are efficient (grade 3)

It is not clear from this if students are required to memorize basic facts. The second sentence suggests memory by the use of the word “recall.” However, the need to use “strategies that are efficient” in order to achieve “quick recall” is confusing and undermines any assumption of memorization.

Generally, the standards are clear, and the use of examples is an excellent feature that usually serves to clarify any ambiguity in the statements. Arizona receives three points out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Content Priorities

Arizona does not provide any guidance as to priorities. Worse, each grade has many standards, some of which are not important from a mathematical perspective. For example, from grade 2 through high school, one of the Major Concepts is “Vertex-Edge Graphs”; many standards are devoted to this topic, such as in third grade:

Solve conflict problems by constructing and coloring vertex-edge graphs (grade 3)

This atypical and unimportant content is apparently equally weighted with crucial content such as mastery of arithmetic. More generally, Arizona fails to prioritize arithmetic—only one-third of the elementary school standards are devoted to it.

Content Strengths

The standards are often very strong. They cover some of the basic properties of arithmetic well, including commutativity, associativity, and distributivity. They also explicitly address the inverse relationship of addition and subtraction and of multiplication and division. The geometry standards include the development of formulas for areas, and the development of fractions is covered in some depth, including the use of the number line.

The high school standards cover many topics with both depth and rigor. Much of the STEM-ready content is covered.

Content Weaknesses

The development of arithmetic is Arizona standards’ main weakness. There are many good culminating standards for arithmetic, fluency is mentioned in the explanatory material, and sample problems demonstrate student arithmetic proficiencies. However, the development of arithmetic is not adequately specific. To illuminate this shortcoming, the discussion below traces the development of whole-number multiplication.

As discussed above, instant recall of basic multiplication facts is not explicit. There are some desirable standards on multiplication, such as the fifth-grade capstone standard for whole-number multiplication:

Multiply multi-digit whole numbers (grade 5)

A rigorous treatment of this standard requires fluency with the standard algorithm. However, the explanatory material does not specify any methods. The preceding fourth-grade standard on multiplication is:

Use multiple strategies to multiply whole numbers: two-digit by two-digit and multi-digit by one digit (grade 4)

This standard could appropriately lead to mastery of the standard algorithm. However, the explanatory material for this standard includes four separate ways to multiply whole numbers, none of which is the standard algorithm. This suggests both a lack of exposure to the standard algorithm and a lack of expectation that a student must learn it.

The development of fraction arithmetic is problematic as well. Some standards ask that students manipulate fractions, but methodology is not specified. Common denominators are not mentioned in the standards, though they are mentioned in the explanatory material.

Arizona’s standards have strong high school content, but do not properly develop or prioritize arithmetic. These “critical shortcomings” result in a Content and Rigor score of four points out of seven. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

With their grade of B, Arizona’s mathematics standards are decent. Still, those developed by the Common Core State Standards Initiative earn an impressive A-minus, and thus are superior to what the Grand Canyon State has in place today.