

# Maine • English Language Arts

## DOCUMENTS REVIEWED

*Learning Results: Parameters for Essential Instruction (2007): English Language Arts. 2007.*  
Accessed from: <http://www.maine.gov/education/lres/pei/ela102207.pdf>

## Overview

Maine’s ELA standards are well organized and easy to read. Unfortunately, like many states, Maine falls into the trap of providing grade-specific detail only for assessed grades (3-8) rather than for all grades, K-12. This leads to serious gaps in both content and clarity that prevent the standards from providing the roadmap that teachers need to guarantee rigorous instruction for all students.



Clarity and Specificity: 2/3  
Content and Rigor: 4/7  
**Total State Score: 6/10**  
(Common Core Grade: B+)

## General Organization

The Maine ELA standards are divided first into six “standards,” covering reading, writing, research, language, listening and speaking, and media. Each standard is subdivided into one to five “performance indicator labels.” (Both the standards and the performance indicator labels are uniform across all grades.) For example, the reading standard is divided into these four performance indicator labels:

### Reading

1. Interconnected Elements: Comprehension, Vocabulary, Alphabetics, Fluency
2. Literary Texts
3. Informational Texts
4. Persuasive Texts

Finally, the performance indicator labels are divided into specific “performance indicators and descriptors” that are presented either for individual grades or for grade bands. For example, the performance descriptor for grades K-2 for indicator number one (above) is:

Students read texts, within a grade-appropriate span of text complexity, and apply their knowledge and strategies of comprehension, vocabulary, alphabetics, and fluency (grades K-2)

For reading, grade-specific indicators are provided for grades 3-8. Early elementary indicators are provided together for grades Pre-K-2, and high school standards for 9-Diploma.

The indicators for writing, research, language, listening and speaking, and media are presented together for grades Pre-K-2, 3-5, 6-8, and 9-Diploma.

## Clarity and Specificity

The Maine standards are clearly written and easy to understand, and the document includes a glossary where teachers can find definitions for all content-specific terms used throughout the document. This glossary often serves to clarify expectations.

The grade-specific indicators are detailed and logically grouped, and attention was clearly paid to the progression across grade bands.

Unfortunately, because the majority of standards are presented in grade bands rather than for individual grades, it is difficult to discern what skills and content students should learn each year. What’s more, though the state appears to have grade-specific indicators and performance descriptors for grade 3-8 reading, many of these are repeated verbatim from year to year, making distinctions between grades impossible to discern. Take, for example, the following standards, which are repeated nearly verbatim for grades 3-5 and 6-8:

[Students will] [u]se a range of strategies as they read, including constant monitoring, searching, connecting, and inferring to deepen their understanding of text(s) (grades 3-5)

[Students will] [u]se a range of before-, during-, and after-reading strategies to deepen their understanding of text(s) (grades 6-8)

These shortcomings make it difficult to discern the scope and sequence of the material that students should master and result in a score of two points out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

## Content and Rigor

### Content Strengths

The Maine standards have clear performance indicators that specify systematic vocabulary development, particularly for grades K-8. For example, consider these elementary standards:

Develop vocabulary using knowledge of word parts and relationships among words including action words and different words that describe similar meanings (Pre-K-2)

Determine the meaning of unknown words by using a variety of strategies including using the context of the text, word connections, and a dictionary (grade 3)

Use phonics including syllable types, word parts, word families and common prefixes and suffixes to read fluently and build meaning as they read (grade 3)

Determine the meaning of unknown words by using a variety of strategies including applying knowledge of synonyms, antonyms, homophones, and homographs (grade 4)

The reading standards are also particularly strong in grades 5-8, in part because they provide grade-level descriptors of student expectations for working with literary, informational, and persuasive texts. Consider these eighth-grade standards for literary and persuasive texts:

#### Literary Text

Evaluate the structural elements of the plot, such as subplots, parallel episodes, and climax; the plot’s development; and the way in which conflicts are (or are not) addressed and resolved (grade 8)

#### Persuasive Texts

Identify rhetorical devices an author uses to persuade the reader, including bandwagon, peer pressure, repetition, testimonial, hyperbole, loaded words, transfer, amplification, and extended metaphor (grade 8)

In writing, standards specify important genres, including narrative, argument/analysis, and persuasive writing, and provide some detail about the essential genre-specific content that students must master.

The Maine standards also include expectations for the correct use of Standard English. These standards are particularly well written for grades Pre-K-5.

Maine underscores the importance of research writing by devoting an entire strand to research, which includes specific criteria and content that students should master across Pre-K-12.

### *Content Weaknesses*

Despite the strengths noted above, some content is absent from Maine’s ELA standards. For starters, they do not address American literature, nor do they provide guidance regarding the level of reading/writing expected at each grade or grade band. While the standards claim that students should “read text, within a grade appropriate span of text complexity,” the actual standards, indicators, and descriptors neither define nor provide examples of how educators might assess grade-level appropriateness.

The writing standards also fail to include sample rubrics or examples that illustrate the quality of writing expected.

A number of the content-area weaknesses result from Maine’s decision to use grade bands in K-2 and high school. The Pine Tree State fails to delineate explicit and systematic expectations for early reading, which is not surprising in a document that groups Pre-K-2 standards together. The indicators for high school vocabulary, perhaps because they are similarly grouped (9-12), do not reference etymology, connotation/denotation, or shades of meaning, all of which are explicitly addressed in grades 7 and 8.

As mentioned, Maine includes expectations regarding the correct use of English conventions, yet its grade 6-8 standards fail to mention some critical content, such as parts of the verb or verb tenses, specific types of pronouns, types of phrases and clauses, or fragments.

The manner in which Maine has organized its ELA standards leads to serious gaps in content—in total, more than a third of the essential content is missing. Consequently, Maine can earn no higher than four points out of seven for Content and Rigor. (See *Common Grading Metric*, Appendix A.)

### **The Bottom Line**

With their grade of C, Maine’s ELA standards are mediocre. Those developed by the Common Core State Standards Initiative earn a solid B-plus. The CCSS ELA standards are superior to what the Pine Tree State has in place today.

# Maine • Mathematics

## DOCUMENTS REVIEWED

*Maine Learning Results: Parameters for Essential Instruction, Mathematics.* October 22, 2007.  
Accessed from: [http://www.maine.gov/education/lres/pei/math\\_0708.pdf](http://www.maine.gov/education/lres/pei/math_0708.pdf)

## Overview

Maine’s standards are not well explicated; however, the organization is good, and the grade-level statements are generally easy to read and understand. The elementary standards prioritize arithmetic quite well, but they do not develop it appropriately. The high school content is condensed to a single set of standards for all of high school, and the coverage of high school math is inadequate.



Clarity and Specificity: 2/3  
Content and Rigor: 3/7  
**Total State Score: 5/10**  
(Common Core Grade: A-)

## General Organization

The standards are organized into four content strands such as Number and Data. Each strand is divided into three topics (Number, for instance, includes: Whole Number, Rational Number, and Real Number). The topics subdivide into grade-level “Performance Indicators” and then more specific “Descriptors.” For instance, in the Pre-K-2 Whole Number strand, one performance indicator reads, “Students understand and use procedures to add and subtract whole numbers with one and two digits.” One of the two accompanying descriptors reads, “Use and explain multiple strategies for computation.” Both performance indicators and descriptors are referred to as standards in this review.

The standards are divided into three levels: Pre-K-2, grades 3-8 (for which individual grade-level standards are provided), and 9-Diploma (which includes all of the high school material).

## Clarity and Specificity

Each topic is presented in a chart that shows its development through the grades and, appropriately, not all topics have standards for each grade. The topic of Whole Numbers is properly finished in sixth grade, though seventh and eighth grades have a statement that:

It is expected that students continue to use prior concepts and skills in new and familiar contexts (grades 7-8)

Many standards are straightforward and clear, for example:

Tell time to the hour and half hour (grade 2)

Represent fractions greater than one as mixed numbers and mixed numbers as fractions (grade 4)

Add and subtract fractions with unlike denominators (grade 5)

The high school coverage is scant—there are roughly fifty standards for all of high school. The standards become less clear and specific than in earlier grades. In many standards, the language is clear enough, but the level of detail is insufficient to interpret the standards, as in the following:

Use the concept of  $n^{\text{th}}$  root (high school)

Use concepts such as domain, range, zeros, intercepts, and maximum and minimum values (high school)

The development of content is also not particularly coherent at the high school level. For example, standards dealing with quadratic equations are not placed together, but scattered across the topics. This is illustrated in the following standard, which appears under the topic Real Numbers rather than with other standards on quadratics:

Understand that some quadratic equations do not have real solutions and that there exist other number systems to allow for solutions to these equations (high school)

Though the organization is not well explained, it makes sense. The standards are well organized and the K-8 statements are generally clear. The high school standards are less clear and often lack specificity. The standards “do not quite provide a complete guide to users,” and therefore receive a Clarity and Specificity score of two points out of three. (See *Common Grading Metric*, Appendix A.)

## Content and Rigor

### *Content Priorities*

About half of the elementary grade standards deal with the critical topic of arithmetic. This appropriately prioritizes it and sets the stage for students to succeed in more rigorous mathematics in the middle and upper grades.

### *Content Strengths*

The grade-level standards have good focus. There are not a lot of extraneous standards in the lower grades. For example, probability is not introduced as a topic until it can be defined as a ratio:

Predict the probability of outcomes of simple experiments and verify predictions using the understanding that the probability of an occurrence is the ratio of the number of actual occurrences to the number of possible occurrences (grade 7)

It is also refreshing to see whole-number arithmetic as a focus in early grades, and then dropping out as a topic that students should have mastered.

The general structure of arithmetic is covered well with standards such as:

Use the inverse relationships between addition and subtraction and between multiplication and division and the commutative laws of multiplication and addition to solve problems (grade 3)

Fractions are covered reasonably well, and there are some other excellent standards such as:

Solve problems where different units are used within the metric and traditional systems of measurement (grade 6)

### *Content Weaknesses*

Arithmetic, though prioritized, is not adequately developed. Instant recall of basic number facts is not required. Moreover, there is no mention of addition and subtraction facts *at all* in the standards. Multiplication facts are covered inadequately and also void of instant recall:

Multiply single-digit numbers and divide using single-digit divisors and up to two-digit dividends (division facts only, but remainders may be present) (grade 3)

The continued development of whole-number arithmetic is weak. For example, consider the following multiplication and division standards:

Use multiple strategies for multiplication and division (grade 3)  
Students multiply and divide numbers up to four digits by numbers up to two digits, and by tens, hundreds, and thousands and interpret any remainders (grade 5)

Neither fluency nor standard methods and procedures are required. The latter standard is fine as far as it goes, but without fluency and standard algorithms, it is insufficient. The first standard allows students to use alternative methods.

The study of linear equations is missing some basic content including point-slope form, finding the equation of a line from two points, and slopes of parallel and perpendicular lines.

The high school standards omit much essential content. Geometry is covered insufficiently with about eleven standards. Proofs of the major theorems are not explicit and axioms are not mentioned. Quadratic equations are covered, but not coherently and lacking some content such as completing the square and solving max/min problems.

The standards are missing much of the STEM-ready content, including series, trigonometric identities, angle formulas, and polar coordinates.

Maine's standards focus on arithmetic in the elementary grades, but it is not sufficiently developed or culminated. The high school standards are scant and are missing much of the essential content. Taken together, these serious problems result in a Content and Rigor score of three points out of seven. (See *Common Grading Metric*, Appendix A.)

### **The Bottom Line**

With their grade of C, Maine's mathematics standards are mediocre, while those developed by the Common Core State Standards Initiative earn an impressive A-minus. The CCSS math standards are significantly superior to what the Pine Tree State has in place today.