

**Review of the Grade Articulation of State Content Standards:
State-By-State Profile**

Final Report

Prepared for the Colorado Department of Education by



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Review of the Grade Articulation of State Content Standards: State-By-State Profile

This document presents information from WestEd’s review of state content standards. The primary question addressed by this review for the Colorado Department of Education (CDE) is:
How do states articulate the grade levels of their state K–12 content standards (i.e., individual grade or grade span)?

This document also presents additional information about preschool and postsecondary standards.

This document is organized as follows:

- K–12 Standards Articulation
 - o Table 1: State Standards Articulation—K–12 Summary
 - o Table 2. State Standards Articulation—Grades K–8
 - o Table 3: State Standards Articulation—Grades 9–12
 - o Considerations for Implementation of Grade Span, Grade-specific, and Course-specific Articulation
- Additional reviews of pre-school standards and postsecondary standards

In order to determine how states articulate their academic standards, WestEd analysts reviewed the information available at department of education websites for the 50 states and the District of Columbia (referred to in this document as *states*). Analysts examined various sets of content standards, curriculum frameworks, and other pertinent documents, primarily in the areas of English language arts, mathematics, and science. Other subject areas with standards articulated are listed in Appendices A and B. All data are based on standards documents retrieved from state department of education websites during March and April, 2008.

Articulation of State Standards across ELA, Mathematics, and Science—K–12

Table 1 displays the ways in which the states articulate their standards. The table is organized in two sections that reflect common grade level bands for which most states articulate their standards—K–8 and 9–12.

To represent K–8 standards that are articulated in either a grade span or grade-specific manner, an “X” has been placed in the corresponding column if *any* of the three subject areas was articulated in this manner. For example, if even one grade of a state’s ELA, mathematics, or science standards is articulated, there is an “X” in the corresponding grade-specific cell.

For grades 9–12, a third category—“course-specific”—is included to more accurately represent how states routinely articulate secondary standards. All standards articulated by course name (e.g., Algebra I, Algebra II), including end-of-course standards, are coded as “course-specific.”

Many states use multiple approaches to K–12 standards articulation. Table 1 presents a “snapshot” of states’ approaches across subject areas. This format provides a summary of the approaches found across each state’s ELA, mathematics, and science standards. More detailed description of the full diversity of each state’s standards is provided in Tables 2 and 3, which

show the standards' articulation for each of the three main subject areas (i.e., ELA, math, and science), for both the K–8 and the 9–12 grade levels.

In the Table 1 column “Dates of K–12 Standards,” the years listed indicate the range of dates (e.g., adoption, revision, draft) provided for each state’s standards documents for both the K–8 and 9–12 categories.

Table 1: State Standards Articulation across ELA, Mathematics, and Science—Grades K–12

State	K–8 Articulation		9–12 Articulation			Dates of K–12 Standards
	Grade Span	Grade-Specific	Grade Span	Grade-Specific	Course-Specific	
Alabama		X		X	X	2003–2007
Alaska		X		X		2006
Arizona	X	X	X	X	X	1996–2006
Arkansas		X		X	X	2003–2008
California		X	X		X	1997–1998
Colorado	X		X			1995–2007
Connecticut	X	X	X	X	X	2004–2007
Delaware		X		X		2004–2006
District of Columbia		X		X	X	2006–2007
Florida		X	X			2007–2008
Georgia		X		X	X	2004–2007
Hawaii		X		X	X	2005
Idaho		X	X	X	X	2006–2007
Illinois	X		X			1997
Indiana		X	X	X	X	2006–2007
Iowa		X		X		2008
Kansas		X	X			2003–2007
Kentucky	X	X	X	X		2006
Louisiana		X	X	X	X	2004
Maine	X	X	X			2007
Maryland		X	X		X	2004–2007
Massachusetts	X	X	X		X	2000–2006
Michigan		X	X	X	X	2005–2007
Minnesota		X	X			2003–2007
Mississippi		X		X	X	2001–2007
Missouri		X	X	X	X	2005–2007
Montana	X	X	X	X		1998–2007
Nebraska	X	X	X	X		1998–2001
Nevada	X	X	X			2006–2007
New Hampshire	X	X	X	X		2006
New Jersey	X	X	X			2002–2008
New Mexico		X	X	X		2000–2003
New York	X	X	X	X	X	2005
North Carolina		X		X	X	2003–2004
North Dakota		X	X	X		2005–2006
Ohio		X		X		2007
Oklahoma		X		X	X	2000–2002
Oregon		X	X			2001–2007
Pennsylvania		X		X		2002–2008
Rhode Island	X	X	X	X		2006–2007
South Carolina		X	X		X	2005–2007
South Dakota		X	X	X		2004–2007
Tennessee		X			X	2007–2008
Texas		X			X	1998–2006
Utah		X		X	X	2002–2007
Vermont	X	X	X			2004–2008
Virginia		X		X	X	2001–2003
Washington		X	X			2004–2006
West Virginia		X		X	X	2003
Wisconsin		X		X		date not available
Wyoming	X	X	X			2003

Summary of Table 1

Across the three subjects (i.e., ELA, mathematics and science), the findings for states' articulation of standards are listed below:

For K–8

- 16 states articulate some or all of their standards by grade span.
 - Two of these states articulate their standards by grade span only.
- 49 states articulate some or all of their standards by one or more specific grade levels.
 - 35 of these states articulate their standards by specific grade only.
- 14 states have standards documents articulated by a specific grade *and* by grade span.

For 9–12

- 32 states articulate some or all of their standards by grade span.
 - 12 of these states articulate their standards by grade span only.
- 33 states articulate some or all of their standards by specific grade level.
 - Six of these states articulate their standards by specific grade level only.
- 25 states articulate some or all of their standards by specific course.
 - Two of these states articulate their standards by specific course only.
- Eight states have standards documents articulated by grade span *and* specific grade.
- Four states have standards documents articulated by grade span *and* specific course.
- 11 states have standards documents articulated by specific grade *and* specific course.
- Eight states have standards documents articulated by grade span, specific grade, *and* specific course.

Across grades K–12, two states articulate their ELA, mathematics, and science standards by grade span only (CO, IL), and six articulate these standards by specific grades only (AK, DE, IA, OH, PA, WI).

Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades K–8

Whereas Table 1 presents a summary of articulation approaches across the three main subject areas, Table 2 presents details for grades K–8 by subject area for each state. The table lists the name of each state's standards and the titles of the ELA, mathematics, and science standards reviewed. For articulation, actual grade spans and/or specific grades are listed. If states have additional sets of standards, these are listed in Appendix A, along with the URL(s) of the websites from which data were obtained. The final column of Table 2 provides information about the dates each set of standards was adopted, revised, or drafted.

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
Alabama <i>Courses of Study</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Revised February 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted 2003
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted 2005
	Additional standards: 7 areas			
Alaska <i>Content Standards</i>	English/Language Arts: Reading		K, 1, 2, 3, 4, 5, 6, 7, 8	Revised March 2006
	English/Language Arts: Writing		K, 1, 2, 3, 4, 5, 6, 7, 8	Revised March 2006
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Revised March 2006
	Science		3, 4, 5, 6, 7, 8	Revised March 2006
	Additional standards: 12 areas			
Arizona <i>Academic Standards</i>	ELA: Reading		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved March 2003
	ELA: Writing		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved June 2004
	ELA: Listening/Speaking	1–3, 4–8	K	Adopted July 1996
	ELA: Viewing/Presenting	1–3, 4–8	K	Adopted July 1996
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved June 2006
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved May 2004; updated March 2005
	Additional standards: 6 areas			
Arkansas <i>Curriculum Frameworks</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Revised 2003
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Revised 2004
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Revised 2005
	Additional standards: 7 areas			
California <i>Content Standards</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted December 1997
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7	Adopted December 1997
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted October 1998
	Additional standards: 5 areas			

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
Colorado <i>Model Content Standards</i>	Reading & Writing	K–4, 5–8		Adopted July 1995
	Mathematics	K–4, 5–8		Adopted June 1995; amended September 2005
	Science	K–2, 3–5, 6–8		Adopted June 1995; amended February 2007
	Additional standards: 10 areas			
Connecticut <i>Curriculum Standards</i>	Literacy/English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Draft January 2008
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Draft October 2007
	Science	Pre-K–K	1, 2, 3, 4, 5, 6, 7, 8	Adopted/approved October 2004; edited January 2005
	Additional standards: 18 areas			
Delaware <i>Recommended Curriculum Content Standards</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	August 2006
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	August 2006
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Draft 2004
	Additional standards: 10 areas			
District of Columbia <i>Learning Standards</i>	Reading/English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	2006
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	September 2007
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	2006–2007
	Additional standards: 1 area			
Florida <i>Sunshine State Standards</i>	Reading/Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted February 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted September 2007
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted February 2008
	Additional standards: 6 areas			

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
Georgia <i>Performance Standards and Quality Core Curriculum</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2005-August 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	July 2005 and July 2006
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted/Revised July 2004-May 2007
	Additional standards: 3 areas			
Hawaii <i>Content and Performance Standards</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	2005
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	2005
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	2005
	Additional standards: 6 areas			
Idaho <i>Content Standards with Limits</i>	Language Arts: Reading		K, 1, 2, 3, 4, 5, 6, 7, 8	April 2006; February 2007
	Language Arts: Language Usage		K, 1, 2, 3, 4, 5, 6, 7, 8	April 2006; February 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	April 2006; February 2007
	Science		K, 1, 2, 3, 4, 5, 6, 7	April 2006; February 2007
	Additional standards: 5 areas			
Illinois <i>Illinois Learning Standards</i>	English Language Arts	Early elementary, Late elementary, Middle/ Junior high school		Adopted 1997
	Mathematics	Early elementary, Late elementary, Middle/ Junior high school		Adopted 1997
	Science	Early elementary, Late elementary, Middle/ Junior high school		Adopted 1997
	Additional standards: 5 areas			

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
Indiana <i>Academic Standards and Resources</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2006–June 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	August 2006
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	August 2006
	Additional standards: 15 areas			
Iowa <i>Core Content Standards, Benchmarks, and Grade Level Indicators</i>	Reading		3, 4, 5, 6, 7, 8	February 2008
	Mathematics		3, 4, 5, 6, 7, 8	February 2008
	Science		3, 4, 5, 6, 7, 8	February 2008
	No additional standards			
Kansas <i>Curricular Standards</i>	Reading		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved July 2003
	Writing		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved November 2004
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	July 2003; January 2004
	Science		K, 1, 2, 3, 4, 5, 6, 7	Revised August 2007
	Additional standards: 14 areas			
Kentucky <i>Combined Curriculum Document</i>	Reading	Primary	4, 5, 6, 7, 8	2006
	Writing	Primary	4, 5, 6, 7, 8	2006
	Mathematics	Primary	4, 5, 6, 7, 8	2006
	Science	Primary	4, 5, 6, 7, 8	2006
	Additional standards: 4 areas			
Louisiana <i>Grade-Level Expectations</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	February 2004
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	February 2004
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	February 2004
	Additional standards: 4 areas			
Maine <i>Learning Results: Parameters for Essential Instruction</i>	English Language Arts	Pre-K–2, 3–5, 6–8		October 2007
	Mathematics	Pre-K–2	3, 4, 5, 6, 7, 8	October 2007
	Science and Technology	Pre-K–2, 3–5, 6–8		October 2007
	Additional standards: 5 areas			

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
Maryland <i>Voluntary State Curriculum</i>	Reading/English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	November 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2004
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	December 2005
	Additional standards: 6 areas			
Massachusetts <i>Curriculum Frameworks</i>	English Language Arts	Pre-K–4, 5–8	3, 5, 7	June 2001 and May 2004
	Mathematics	Pre-K–K, 1–2, 3–4, 5–6, 7–8	3, 5, 7	November 2000 and May 2004
	Science and Technology/Engineering	Pre-K–2, 3–5, 6–8		October 2006
	Additional standards: 5 areas			
Michigan <i>Grade Level Content Expectations</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	December 2005
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	December 2005
	Science		K, 1, 2, 3, 4, 5, 6, 7	December 2007
	Additional standards: 6 areas			
Minnesota <i>Academic Standards</i>	Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	May 2003
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	May 2005; revised April 2007
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	December 2003
	Additional standards: 9 areas			
Mississippi <i>Curriculum Framework</i>	English/Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	2006
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7	2007
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	2001
	Additional standards: 7 areas			
Missouri <i>Grade-Level Expectations</i>	Communication Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	November 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	November 2007
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	April 2005
	Additional standards: 6 areas			

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
Montana <i>Montana Content Standards and Performance Descriptors</i>	Reading		3, 4, 5, 6, 7, 8	September 2000 and after September 2000
	Literature		4, 8	October 1999
	Media Literacy		4, 8	October 1999
	Speaking & Listening		4, 8	October 1999
	Writing		4, 8	October 1999
	Mathematics		3, 4, 5, 6, 7, 8	October 1998 and after October 1998
	Science	7–8	K, 1, 2, 3, 4, 5, 6, 8	November 2006 and April 2007
	Additional standards: 10 areas			
Nebraska <i>Academic Standards</i>	Reading/Writing	K–1	3, 4, 5, 6, 7, 8	September 2001
	Mathematics	K–1, 2–4, 5–8	3, 5, 6, 7	Adopted December 2000
	Science	K–1, 2–4, 5–8		Adopted May 1998
	Additional standards: 1 area			
Nevada <i>Academic Standards</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted November 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted Summer 2006
	Science	K–2, 3–5, 6–8		Spring 2007
	Additional standards: 8 areas			
New Hampshire <i>Curriculum Frameworks</i>	Reading		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2006
	Writing		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2006
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2006
	Science	K–2, 3–4, 5–6, 7–8		June 2006
	Additional standards: 6 areas			

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
New Jersey <i>Core Curriculum Content Standards</i>	English Language Literacy		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted July 2002, revised and readopted April 2004, revisions January 2008
	Mathematics		2, 3, 4, 5, 6, 7, 8	Adopted July 2002, revisions January 2008
	Science	K–4, 5–8 & K–2, 3–4, 5–6, 7–8		Adopted July 2002
	Additional standards: 7 areas			
New Mexico <i>Content Standards</i>	Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted June 2000
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2002
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	August 2003
	Additional standards: 5 areas			
New York <i>NYS Learning Standards and Core Curriculum</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	May 2005
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Revised March 2005
	Science	K–4, 5–8		[not dated]
	Additional standards: 8 areas			
North Carolina <i>Standard Course of Study</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved 2004
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved 2003
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved 2004
	Additional standards: 9 areas			
North Dakota <i>Content and Achievement Standards</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	April 2005
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	April 2005
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	March 2006
	Additional standards: 6 areas			
Ohio <i>Academic Content Standards</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Modified July 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Modified July 2007
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Modified July 2007
	Additional standards: 4 areas			

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
Oklahoma <i>Priority Academic Student Skills</i>	Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted 2000
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted 2000
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted 2000
	Additional standards: 8 areas			
Oregon <i>State Standards</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted June 2002 (K–3); January 2003 (4–CIM)
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted 2002; revised December 2007
	Science		3, 5, 8	Adopted April 2001
	Additional standards: 8 areas			
Pennsylvania <i>Academic Standards</i>	Reading, Writing, Speaking and Listening		3, 5, 8	February 2008
	Mathematics		3, 5, 8	February 2008
	Science and Technology		4, 7	January 2002
	Environment and Ecology		4, 7	January 2002
	Additional standards: 8 areas			
Rhode Island <i>Curriculum Continuum</i>	Reading		K, 1, 2, 3, 4, 5, 6, 7, 8	2006; updated April 2007
	Written & Oral Communication		K, 1, 2, 3, 4, 5, 6, 7, 8	May 2006; edited August 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2006; edited August 2007
	Science	K–2, 3–4, 5–6, 7–8		Updated January and March 2006, and August 2007
	Additional standards: 5 areas			
South Carolina <i>Academic Standards</i>	English Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	June 2007
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	November 2005
	Additional standards: 5 areas		K, 1, 2, 3, 4, 5, 6, 7, 8	January 2005

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
South Dakota <i>Content Standards</i>	Reading/Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved March 2007
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved May 2004
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved March 2005
	Additional standards: 13 areas			
Tennessee <i>Curriculum Standards (2008–2009 & 2009–2010)</i>	English/Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved 2008
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved 2007
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Approved 2007
	Additional standards: 8 areas			
Texas <i>Texas Essential Knowledge and Skills</i>	English Language Arts and Reading		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted September 1998
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Amended August 2006
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted September 1998
	Additional standards: 17 areas			
Utah <i>Core Curriculum</i>	Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	May 2003; 2006
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7	June 2007
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	March 2002; May and April 2003
	Additional standards: 8 areas			
Vermont <i>Framework of Standards and Learning Opportunities</i>	Literacy		K, 1, 2, 3, 4, 5, 6, 7, 8	Spring 2004
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	February 2004; updated March 2008
	Science	Pre-K–K, 1–2, 3–4, 5–6, 7–8		March 2007
	Additional standards: 6 areas			
Virginia <i>Standards of Learning</i>	English		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted November 2003
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted October 2001
	Science		K, 1, 2, 3, 4, 5, 6	Adopted January 2003
	Additional standards: 6 areas			

Table 2. State Standards Articulation by Subject (ELA, Mathematics, Science)—Grades K–8

State Standards Name	Subject	Articulation		Date adopted/revised/drafted
		Grade Span	Grade-Specific	
Washington <i>Washington State Learning Standards</i>	Reading		K, 1, 2, 3, 4, 5, 6, 7, 8	Winter 2004
	Writing		K, 1, 2, 3, 4, 5, 6, 7, 8	Winter 2006
	Communication		K, 1, 2, 3, 4, 5, 6, 7, 8	Winter 2006
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Developed 2006, under revision
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	Winter 2005
	Additional standards: 7 areas			
West Virginia <i>Content Standards and Objectives</i>	Reading & Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	July 2003
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	July 2003
	Science		K, 1, 2, 3, 4, 5, 6, 7, 8	July 2003
	Additional standards: 11 areas			
Wisconsin <i>Model Academic Standards</i>	English Language Arts		4, 8	date not available
	Mathematics		4, 8	date not available
	Science		4, 8	date not available
	Additional standards: 16 areas			
Wyoming <i>Content and Performance Standards</i>	Language Arts		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted July 2003
	Mathematics		K, 1, 2, 3, 4, 5, 6, 7, 8	Adopted July 2003
	Science	K–4, 5–8		Adopted July 2003
	Additional standards: 6 areas			

Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

Similar to Table 2, Table 3 provides details for grades 9–12 by subject area for each state. The table lists the name of each state’s standards and the titles of the ELA, mathematics, and science standards reviewed. For articulation, actual grade spans and/or specific grades are listed. For standards providing course-specific information, the number of courses is presented. The titles of the courses are provided in Appendix B. Appendix B also includes a listing of each state’s additional sets of standards, along with the URL(s) of the websites from which data were obtained. The final column of Table 3 provides information about the dates each set of standards was adopted, revised, or drafted.

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
Alabama <i>Courses of Study</i>	English Language Arts		9, 10, 11, 12		Revised February 2007
	Mathematics			9 courses	Adopted 2003
	Science			14 courses	Adopted 2005
	Additional standards: 7 areas				
Alaska <i>Content Standards</i>	English/Language Arts: Reading		9, 10		Revised March 2006
	English/Language Arts: Writing		9, 10		Revised March 2006
	Mathematics		9, 10		Revised March 2006
	Science		9, 10, 11		Revised March 2006
	Additional standards: 12 areas				
Arizona <i>Academic Standards</i>	ELA: Reading		9, 10, 11, 12		Approved March 2003
	ELA: Writing		9, 10, 11, 12		Approved June 2004
	ELA: Listening/Speaking	9–12		1 course	Adopted July 1996
	ELA: Viewing/Presenting	9–12		1 course	Adopted July 1996
	Mathematics	9–12			Approved June 2006
	Science			3 courses	Approved May 2004; updated March 2005
	Additional standards: 6 areas				
Arkansas <i>Curriculum Frameworks</i>	English Language Arts		9, 10, 11, 12		Revised 2003; amended 2006
	Mathematics			16 courses	Revised 2004; amended 2006/2008
	Science			6 courses	Revised 2005
	Additional standards: 7 areas				
California <i>Content Standards</i>	English Language Arts	9–10, 11–12			Adopted December 1997
	Mathematics			9 courses	Adopted December 1997
	Science	9–12			Adopted October 1998
	Additional standards: 5 areas				

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
Colorado <i>Model Content Standards</i>	Reading & Writing	9–12			Adopted July 1995
	Mathematics	9–12			Adopted June 1995; amended September 2005
	Science	9–12			Adopted June 1995; amended February 2007
	Additional standards: 10 areas				
Connecticut <i>Curriculum Standards</i>	Literacy/English Language Arts	9–12			Framework March 1998
	Mathematics	9–12			Draft October 2007
	Science		9, 10	4 courses	Adopted/approved October 2004; edited January 2005
	Additional standards: 18 areas				
Delaware <i>Recommended Curriculum Content Standards</i>	English Language Arts		9, 10, 11, 12		August 2006
	Mathematics		9, 10, 11		August 2006
	Science		9, 10, 11, 12		Draft 2004
	Additional standards: 10 areas				
District of Columbia <i>Learning Standards</i>	Reading/English Language Arts		9, 10, 11, 12		2006
	Mathematics			5 courses	September 2007
	Science			5 courses	2006–2007
	Additional standards: 1 area				
Florida <i>Sunshine State Standards</i>	Reading/Language Arts	9–10, 11–12			Adopted February 2007
	Mathematics	9–12			Adopted September 2007
	Science	9–12			Adopted February 2008
	Additional standards: 6 areas				

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
Georgia <i>Performance Standards and Quality Core Curriculum</i>	English Language Arts		9, 10, 11, 12	6 courses	Revised July 2006
	Mathematics			7 courses	July 2005 and July 2006
	Science			7 courses	Approved July 2006
	Additional standards: 3 areas				
Hawaii <i>Content and Performance Standards</i>	English Language Arts		9, 10, 11, 12		2005
	Mathematics			9 courses	2005
	Science			5 courses	2005
	Additional standards: 6 areas				
Idaho <i>Content Standards with Limits</i>	Language Arts: Reading		9, 10, 11, 12	1 course	April 2006
	Language Arts: Language Usage		9, 10, 11, 12	1 course	April 2006
	Mathematics		9, 10		April 2006; February 2007
	Science	8–10		3 courses	April 2006
	Additional standards: 5 areas				
Illinois <i>Illinois Learning Standards</i>	English Language Arts	Early high school, Late high school			Adopted 1997
	Mathematics	Early high school, Late high school			Adopted 1997
	Science	Early high school, Late high school			Adopted 1997
	Additional standards: 5 areas				
Indiana <i>Academic Standards and Resources</i>	English Language Arts	9-12	9, 10, 11, 12		June 2006
	Mathematics			10 courses	August 2006
	Science			8 courses	August 2006
	Additional standards: 15 areas				

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
Iowa <i>Core Content Standards, Benchmarks, and Grade Level Indicators</i>	Reading		9, 10, 11, 12		February 2008
	Mathematics		9, 10, 11, 12		February 2008
	Science		9, 10, 11, 12		February 2008
	No additional standards				
Kansas <i>Curricular Standards</i>	Reading	9–12			Approved July 2003
	Writing	9–12			Approved November 2004
	Mathematics	9–10			July 2003; January 2004
	Science	8–12			Revised August 2007
	Additional standards: 14 areas				
Kentucky <i>Combined Curriculum Document</i>	Reading	11–12	9, 10		2006
	Writing		9,10,11,12		2006
	Mathematics	High school			2006
	Science	High school			2006
	Additional standards: 4 areas				
Louisiana <i>Grade-Level Expectations</i>	English Language Arts	11–12	9, 10		February 2004
	Mathematics	11–12	9, 10		February 2004
	Science			6 courses	February 2004
	Additional standards: 4 areas				
Maine <i>Learning Results: Parameters for Essential Instruction</i>	English Language Arts	9–diploma			October 2007
	Mathematics	9–diploma			October 2007
	Science and Technology	9–diploma			October 2007
	Additional standards: 5 areas				

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
Maryland <i>Voluntary State Curriculum</i>	Reading/English Language Arts	High school			August 2004
	Mathematics			3 courses	June 2004
	Science			1 course	July 2007
	Additional standards: 6 areas				
Massachusetts <i>Curriculum Frameworks</i>	English Language Arts	9–10, 11–12			June 2001
	Mathematics	9–10, 11–12		4 courses	November 2000
	Science and Technology/Engineering	High school			October 2006
	Additional standards: 5 areas				
Michigan <i>Michigan Merit Curriculum</i>	English Language Arts	High school	9, 10, 11, 12		April 2006–March 2007
	Mathematics	High school		5 courses	August 2006 and November 2007
	Science	High school		4 courses	October 2006 and November 2006
	Additional standards: 6 areas				
Minnesota <i>Academic Standards</i>	Language Arts	9–12			May 2003
	Mathematics	9–11			May 2005; revised April 2007
	Science	9–12			December 2003
	Additional standards: 9 areas				
Mississippi <i>Curriculum Framework</i>	English/Language Arts		9, 10, 11, 12	30 courses	2006
	Mathematics			13 courses	2007
	Science			23 courses	2001
	Additional standards: 7 areas				
Missouri <i>Grade- and Content-Level Expectations</i>	Communication Arts	9–12	9, 10, 11, 12		October 2005—Listening and Speaking strand only; November 2007
	Mathematics			5 courses	November 2007
	Science			5 courses	June 2007
	Additional standards: 6 areas				

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
Montana <i>Montana Content Standards and Performance Descriptors</i>	Reading		10, 12		September 2000 and After September 2000
	Literature		12		October 1999
	Media Literacy		12		October 1999
	Speaking & Listening		12		October 1999
	Writing		12		October 1999
	Mathematics		10, 12		October 1998 and after October 1998
	Science	9–10, 11–12	12		November 2006 and April 2007
	Additional standards: 10 areas				
Nebraska <i>Academic Standards</i>	Reading/Writing		12		September 2001
	Mathematics	9–12			Adopted December 2000
	Science	9–12			Adopted May 1998
	Additional standards: 1 area				
Nevada <i>Academic Standards</i>	English Language Arts	9–12			Adopted November 2007
	Mathematics	9–12			Adopted Summer 2006
	Science	9–12			Spring 2007
	Additional standards: 8 areas				
New Hampshire <i>Curriculum Frameworks</i>	Reading		10, 12		June 2006
	Writing		10, 12		June 2006
	Mathematics	High school, Advanced math			June 2006
	Science	9–11, 11–12			June 2006
	Additional standards: 6 areas				

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
New Jersey <i>Core Curriculum Content Standards</i>	English Language Literacy	9–12			Adopted July 2002; revised and readopted April 2004; revisions January 2008
	Mathematics	9–12			Adopted July 2002; revisions January 2008
	Science	9–12			Adopted July 2002
	Additional standards: 7 areas				
New Mexico <i>Content Standards</i>	Language Arts		9, 10, 11, 12		Adopted June 2000
	Mathematics	9–12			June 2002
	Science	9–12			August 2003
	Additional standards: 5 areas				
New York <i>NYS Learning Standards and Core Curriculum</i>	English Language Arts		9, 10, 11, 12		May 2005
	Mathematics			3 courses	Revised March 2005
	Science	9–12			[not dated]
	Additional standards: 8 areas				
North Carolina <i>Standard Course of Study</i>	English Language Arts		9, 10, 11, 12	2 courses	Approved 2004
	Mathematics			15 courses	Approved 2003
	Science			11 courses	Approved 2004
	Additional standards: 9 areas				
North Dakota <i>Content and Achievement Standards</i>	English Language Arts		9, 10, 11, 12		April 2005
	Mathematics	9–10, 11–12			April 2005
	Science	9–10, 11–12			March 2006
	Additional standards: 6 areas				
Ohio <i>Academic Content Standards</i>	English Language Arts		9, 10, 11, 12		Modified July 2007
	Mathematics		9, 10, 11, 12		Modified July 2007
	Science		9, 10, 11, 12		Modified July 2007
	Additional standards: 4 areas				

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
Oklahoma <i>Priority Academic Student Skills</i>	Language Arts		9, 10, 11, 12		Adopted 2002
	Mathematics			3 courses	Adopted 2002
	Science			4 courses	Adopted 2002
	Additional standards: 8 areas				
Oregon <i>State Standards</i>	English Language Arts	9–12			Adopted January 2003
	Mathematics	9–12			Adopted April 2002
	Science	9–12			Adopted April 2001
	Additional standards: 8 areas				
Pennsylvania <i>Academic Standards</i>	Reading, Writing, Speaking and Listening		11		February 2008
	Mathematics		11		February 2008
	Science and Technology		10, 12		January 2002
	Environment and Ecology		10, 12		January 2002
	Additional standards: 8 areas				
Rhode Island <i>Curriculum Continuum</i>	Reading		10, 12		2006; Edited April 2007
	Written & Oral Communication		10, 12		2006; updated April 2007
	Mathematics	9–10, 11–12, Advanced			May 2006; Edited August 2007
	Science	9-11			Updated January and March 2006, and August 2007
	Additional standards: 5 areas				
South Carolina <i>Academic Standards</i>	English Language Arts			4 courses	June 2007
	Mathematics	High school			June 2007
	Science	High school			November 2005
	Additional standards: 5 areas				

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
South Dakota <i>Content Standards</i>	Reading/Language Arts		9, 10, 11, 12		Approved March 2007
	Mathematics	9–12			Approved May 2004
	Science	9–12			Approved March 2005
	Additional standards: 13 areas				
Tennessee <i>Curriculum Standards (2008–2009 & 2009–2010)</i>	English/Language Arts			12 courses	Approved 2008
	Mathematics			19 courses	Approved 2008
	Science			24 courses	Approved 2008
	Additional standards: 8 areas				
Texas <i>Texas Essential Knowledge and Skills</i>	English Language Arts and Reading			41 courses	Adopted September 1998
	Mathematics			13 courses	Amended August 2006
	Science			17 courses	Adopted September 1998
	Additional standards: 17 areas				
Utah <i>Core Curriculum</i>	Language Arts		9, 10, 11, 12		2006
	Mathematics			8 courses	August 2007
	Science			4 courses	April 2003
	Additional standards: 8 areas				
Vermont <i>Grade Expectations for Vermont's Framework of Standards and Learning Opportunities</i>	Literacy	High school			Spring 2004
	Mathematics	High school			February 2004; updated March 2008
	Science	9–12			March 2007
	Additional standards: 6 areas				
Virginia <i>Standards of Learning</i>	English		9, 10, 11, 12		Adopted November 2003
	Mathematics			10 courses	Adopted October 2001
	Science			6 courses	Adopted January 2003
	Additional standards: 6 areas				

Table 3. Articulation of State Standards by Subject (ELA, Mathematics, Science)—Grades 9–12

State Standards Name	Subject	Articulation			Date adopted/revised/drafted
		Grade Span	Grade-Specific	Course-Specific	
Washington <i>Washington State Learning Standards</i>	Reading	9–10			2004
	Writing	9–10			2005
	Communication	9–10			2005
	Mathematics	9–10			Developed 2006, under revision
	Science	9–10			2005
	Additional standards: 3 areas				
West Virginia <i>Content Standards and Objectives</i>	Reading & Language Arts		9, 10, 11, 12	2 courses	July 2003
	Mathematics			10 courses	July 2003
	Science		9, 10	8 courses	July 2003
	Additional standards: 11 areas				
Wisconsin <i>Model Academic Standards</i>	English Language Arts		12		date not available
	Mathematics		12		date not available
	Science		12		date not available
	Additional standards: 16 areas				
Wyoming <i>Content and Performance Standards</i>	Language Arts	9–11			Adopted July 2003
	Mathematics	9–12			Adopted July 2003
	Science	9–12			Adopted July 2003
	Additional standards: 6 areas				

Considerations for Implementation of Grade Span, Grade-specific, and Course-specific Articulation

As shown in Tables 2 and 3, there is considerable variation in the articulation of state content standards. Many states have grade- and course-level specific articulation, particularly in English language arts and mathematics; others have grade span articulation of their standards. There are tradeoffs with respect to each type of articulation. This section discusses those tradeoffs and considerations for implementation. It is important to note that there also is variability in the terminology states use to describe their standards and the level of specificity at which they describe their standards. For example, for some states, “content standards” are the broad, overarching statements that apply across several or all grades. For other states, “content standards” are the most specific descriptors of what students should know and be able to do. “Grade-level expectations” or “indicators” are also terms used by some states to describe the most specific descriptors of student knowledge and skills or level of accomplishment (e.g., beginning, intermediate, and advanced studies in foreign languages and/or the performance arts). Thus, for the purpose of the discussion that follows, the term “standard” is used to refer to the statements states use to describe what students should know and be able to do.

Grade Span Articulation

Grade span articulation often includes overarching statements of content skills and/or knowledge that reflect general expectations of what students should know and be able to do, as well as what students must attain by the end of the highest grade level in a span. Grade span articulation can provide continuity and coherence of skills and/or knowledge across the span (e.g., K–2, 3–5). Such articulation lends itself to flexibility of implementation; that is, the particular order and sequence of the content taught at each grade within a given span can vary, as long as students are able to achieve the targeted content by the end of that grade span. Grade span articulation also supports the individual needs of students (e.g., developmental), accommodating the varied rates at which students might achieve a targeted learning outcome within a given grade span. Such flexibility (e.g., implementation, rates of achievement) is consistent with local control over curriculum and instructional practices and allows teachers to determine when and how standards are reached within a given grade span for their particular students.

However, because the order and sequence of targeted content within a grade span is not specified (e.g., skills and knowledge for grade 3 vs. grade 4 vs. grade 5 in the 3–5 grade span), there may be less consistency in students’ opportunity to learn within and across schools or districts, throughout the state. Such inconsistency has implications for state accountability assessments, which, because of NCLB, must be grade specific in grades 3–8. Under this circumstance, there may not be sufficient alignment among the grade span standards, grade-level instruction, and grade-level assessment; consequently the assessment results may not yield fully valid information about student achievement. Additionally, students who transfer to a new school or district within a state may not be adequately prepared for the particular grade-level expectations of the new school or district’s curriculum at the time of transfer.

Therefore, in order to effectively facilitate students' opportunity to learn and achieve standards articulated by grade span, the state should consider developing and disseminating supporting documents (e.g., curriculum guides, test blueprints) and delivering professional development that help specify and operationalize the state's standards across the grade spans. Such materials and professional development activities will help to ensure that the implementation of the standards (i.e., in terms of rigor, coherence, breadth, depth, sequence) is consistent with the state's intentions. The specificity provided by the state also can help to promote a common understanding among educators, parents, and broader community of the learning expected of students as they progress through school.

Grade-specific Articulation

Grade-specific articulation defines the knowledge and skills to be learned at each grade level. Many states have developed grade-specific standards for some, if not all, content areas in order to satisfy the expectations of NCLB. Such articulation provides a level of specificity that can facilitate alignment among grade-level standards, instruction and curriculum, and assessment. Additionally, such articulation can support the consistency of implementation of state standards (e.g., instruction, assessment) and a common understanding of the learning expected of students as they progress through each grade level in school. In a state with grade-specific articulation, it also may be more likely that students will encounter comparable expectations and experiences as they transfer to new schools or districts within the state.

The degree of specificity provided by grade-specific standards, however, may result in a state having a large number of standards at each grade level. Additional standards may require teachers to attempt to cover more content than they can reasonably cover in an instructional year, or it may create an inappropriate expectation of teachers to cover, for example, a *breadth* of content at the expense of *depth* of content. Additionally, a large number of grade-specific standards has implications for assessments for accountability. More specifically, a single assessment may not be able to provide a valid and reliable measure of the full breadth and depth of the standards.

Therefore, the state should consider developing supporting documents (e.g., curriculum guides) and delivering professional development that will help guide the implementation of the standards (i.e., instruction, curriculum, assessment). Such guidance will help to ensure appropriate and consistent coverage, in terms of, for example, breadth, depth, and relative importance, with respect to the state's intentions.

Course-level Articulation

As shown in Table 3, many states use course-level articulation in the high school grades. Once students are in grades 9-12, course-specific standards provide a common understanding of what is to be learned in particular areas of study (e.g., Algebra, Chemistry). This common understanding has implications for the implementation of the standards (i.e., instruction, curriculum, assessment) and for communication with colleges and employers regarding the knowledge and skills students have had the opportunity to learn and achieve in particular areas of study. When using course-level articulation, the

state should consider alignment or linkage of its standards with college, career, and postsecondary expectations as appropriate.

Characteristics and Format of Grade-Specific Standards: Considerations Related to Quality

There are a number of perspectives on how to define “quality standards” (e.g., Rabinowitz, et al., 2006; Glidden, 2008; McREL, 2008). Typically, standards are hierarchical in nature, and the level of detail reflected in the standards and the structure/format of the standards support the state’s intended curriculum and assessment goals. Therefore, “quality” state standards take a variety of forms based on each state’s goals and priorities. As shown in Tables 2 and 3, across the 50 states and the District of Columbia, there are standards articulated by grade span, grade-level, and/or course. In some states, grade span standards are used as overarching statements that are further defined by grade-level and course-level expectations and indicators. States such as Maine, Michigan, and Arizona have extended their grade span standards to include grade- and course-level expectations.

As mentioned previously, the characteristics and format of a state’s standards should support the state’s intended curriculum and assessment goals. Furthermore, they should present content information in a meaningful and usable way for educators and other key stakeholders. For example, as appropriate, a common structure and common language should be used across grades within a content area, as well as across content areas. Differences in the characteristics and format of the state standards should reflect *real* differences necessitated by the nature of the content (e.g., knowledge vs. process; Geometry vs. Biology). Therefore, a state considering the refinement of its grade-specific standards should involve in its process the input from key stakeholders such as content specialists, teachers, administrators, curriculum developers, assessment developers, professional development specialists, parents, and policy makers.

Articulation for grades 1, 2, 11, and 12

Articulation of content standards across grade levels should support student development for academic success and achievement as the student progresses through school. Therefore, if CDE were to provide grade-specific articulation for grades 1 and 2, it could “back down” its end-of-span K–4 statements. That is, with input from relevant experts (e.g., subject area teachers and specialists), CDE could define the knowledge and skills that are foundational to and/or on the developmental path toward the end-of-span skills and knowledge. These foundational and developmental skills/knowledge should be appropriate for grades 1 and 2 and distinct for each of these grades. Additionally, CDE should make sure (e.g., through expert review) that the skills and knowledge specified at each grade level across the K–4 span appropriately relate to each other and cohere (e.g., vertical alignment). To further inform such grade-specific articulation, CDE could examine the standards of other, similar states in the relevant content areas and grade levels/span. For grades 11 and 12, CDE could consider college, career, and/or postsecondary standards and expectations and, similar to the process described previously, “back down” these standards as appropriate.

Additional Reviews of Pre-School and Postsecondary Standards

In its review of state standards, WestEd analysts gathered information about state pre-school and postsecondary content standards, per the request of CDE. This information is presented below.

Pre-School Standards

Analysts found that every state has adopted some form of pre-school standards. However, there is variation among the states regarding the terms used to describe these standards and the age ranges covered by the standards. The terms states use to describe pre-school standards include the following: Early Learning Guidelines; Early Learning Standards; Pre-Kindergarten Standards; and Pre-school Standards. These terms are not always used consistently by states. For example, analysts found that Early Learning Standards may or may not include kindergarten standards, depending on the state. These state standards also varied in the age ranges to which they applied. Age ranges included: 0–3 years old; 0–5 years old; 3–4 years old; 3–5 years old; and pre-kindergarten.

Postsecondary Standards

Generally, state content standards for postsecondary grades were not found. An exception to this was in the area of teacher education, where Maryland's Secondary Education Oversight Council, for example, has developed content standards with assessable indicators stating the content-area knowledge required of secondary teaching candidates. Although additional college-level content standards were not found, analysts identified two ways in which states frequently address postsecondary education: P–16 initiatives and minimum requirements for associate's or bachelor's degrees.

P–16 initiatives were found in most states, and while they differ from state to state, the initiatives or plans tend to have a stated purpose of building links between K–12 and postsecondary education. The initiatives tend to emphasize collaboration among institutions to prepare students to make an effective transition from high school to a successful college career. Initiatives specifically mention the alignment of resources and programs across all levels to ensure student achievement. Similarly, several plans describe alignment of standards and assessments across the grades. The Kentucky Department of Education website discusses the development of postsecondary content indicators, but the completed indicators were not found, and may still be in the development process. Frequently, P–16 initiatives include definitions or standards for college readiness, outlining the knowledge and skills necessary to succeed in postsecondary education. Agencies of higher education in Missouri, Kansas, Indiana, and Washington, among other states, have increased admissions requirements or recommended core curricula necessary for students to succeed in college courses. Oregon's Proficiency-based Admission Standards System (PASS) also aligns K–12 performance measures with admission to the Oregon University System.

State college and university degree requirements are the second way analysts found that states are addressing postsecondary education. Although no instances were found of content delineated at the level of knowledge and skills, as would often be found in K–12 content standards, degree requirements were typically outlined at the level of course or

unit. For example, the Arkansas State Board of Higher Education and Arkansas' public colleges and universities established a minimum core of courses that is required for baccalaureate degrees and can be transferred to other state institutions.

Appendix A: Sources and Additional Subjects for Table 2

Grades K–8 State Standards Articulation by Subject (ELA, Mathematics, Science)

Alabama *Courses of Study* (http://www.alsde.edu/html/sections/section_detail.asp?section=54) (Click on Publications).

Additional subject area standards: Arts; Physical Education; Languages Other Than English; Health Education; Social Studies; Technology Education; Driver and Traffic Safety Education

Alaska *Content Standards* (<http://www.eed.state.ak.us/standards/>)

Additional subject area standards: Alaska History; Geography; Government & Citizenship; History; Skills for a Healthy Life; the Arts; World Languages; Technology; Employability; Library/Information Literacy; Cultural Standards; English Language Proficiency

Arizona *Academic Standards* (<http://www.ade.state.az.us/standards/contentstandards.asp>)

Additional subject area standards: The Arts, Comprehensive Health Education/Physical Activity, Foreign and Native Language, Social Studies, Technology, Workplace Skills

Arkansas *Curriculum Frameworks* (http://arkedu.state.ar.us/curriculum/curriculum_framework.html)

Additional subject area standards: Arkansas History; English Language Acquisition; Fine Arts; Foreign Language; Music; Physical Education and Health; Social Studies

California *Content Standards* (<http://www.cde.ca.gov/be/st/ss/>)

Additional subject area standards: History-Social Science; Career Technical Education; Physical Education; Visual & Performing Arts; English Language Development

Colorado *Model Content Standards* (http://www.cde.state.co.us/cdeassess/documents/olr/k12_standards.html)

Additional subject area standards: Civics; Dance; Economics; Foreign Language; Geography; History; Music; Physical Education; Theatre; Visual Arts

Connecticut *Curriculum Standards* (<http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=321696>)

Additional subject area standards: Advanced Placement; Agricultural Science; Arts; Business and Finance Technology; Cooperative Work Education; Early Reading; Education Technology; English as a Second Language-Bilingual Education; Family and Consumer Sciences; Gifted and Talented; Health; Learning Resources-Information Technology-Library Media; Marketing Education; Medical Careers; Physical Education; Social Studies; Technology Education; World Languages

Delaware *Recommended Curriculum Content Standards*

(http://www.doe.k12.de.us/programs/ci/DRC/drc_contentStandards.shtml and http://www.doe.k12.de.us/programs/ci/content_areas/ela.shtml)

Additional subject area standards: AgriScience; Business, Finance & Marketing; Family & Consumer Services; Health Education; Physical Education; Social Studies; Skilled Technical Sciences; Technical Education; Visual & Performing Arts; World Languages

District of Columbia *Learning Standards* (<http://www.k12.dc.us/teachingandlearning.htm>)

Additional subject area standards: Social Studies

Florida *Sunshine State Standards* (<http://www.fldoe.org/BII/Curriculum/SSS/>)

Additional subject area standards: Social Studies; Physical Education; World Languages; Fine Arts; Health Education; Workforce Education

Georgia *Performance Standards and Quality Core Curriculum*

(<http://www.georgiastandards.org/>)

Additional subject area standards: Social Studies; Career, Technical & Agricultural Performance Standards; Modern Languages & Latin

Hawaii *Content and Performance Standards* (<http://standardstoolkit.k12.hi.us/index.html>)

Additional subject area standards: Social Studies; Career and Technical Education; Health; Fine Arts; Physical Education; World Languages

Idaho *Content Standards with Limits* (<http://www.sde.idaho.gov/ContentStandards/>)

Additional subject area standards: Health; Humanities; Physical Education; Social Studies; Limited English Proficiency

Illinois *Illinois Learning Standards* (<http://www.isbe.net/ils/>)

Additional subject area standards: Social Science; Fine Arts; Foreign Languages; Physical Development & Health; Social Emotional Learning

Indiana *Academic Standards and Resources* (<http://ideanet.doe.state.in.us/standards/welcome2.html>)

Additional subject area standards: Social Studies; Agriculture Education; Business and Marketing Education; Career and Technical Programs; Dance; Family & Consumer Sciences; Health & Wellness; Music/Visual Arts; Physical Education; Theatre; Trade & Industrial Education; World Languages; English Language Proficiency; Technology Education; Journalism

Iowa *Core Content Standards, Benchmarks, and Grade Level Indicators*

(<http://www.iowa.gov/educate/content/view/1350/1554/>)

Kansas *Curricular Standards* (<http://www.ksde.org/Default.aspx?tabid=1678>)

Additional subject area standards: English to Speakers of Other Languages; History & Government, Economics & Geography; Communications; Dance; Driver Education; Environmental Education; Health Education; Library Media; Listening, Viewing, Speaking; Music; Physical Education; Theatre; Visual Arts; World Languages & English as a Second Language

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

Additional subject area standards: Arts and Humanities; Practical Living/Vocational Studies; Social Studies; Technology

Louisiana *Grade-Level Expectations* (<http://www.doe.state.la.us/lde/saa/1915.html> and <http://www.doe.state.la.us/lde/saa/1916.html>)

Additional subject area standards: Social Studies; Foreign Language; The Arts; Health & Physical Education

Maine *Learning Results: Parameters for Essential Instruction* (<http://www.maine.gov/education/lres/pei/index.html>)

Additional subject area standards: Social Studies; Career and Education Development; Health & Physical Education; Visual & Performing Arts; World Languages

Maryland *Voluntary State Curriculum* (<http://www.mdk12.org/instruction/index.html>)

Additional subject area standards: Social Studies; Fine Arts; Health & PE; Foreign Language; English Language Proficiency; Technology Education

Massachusetts *Curriculum Frameworks* (<http://www.doe.mass.edu/frameworks/current.html>)

Additional subject area standards: History & Social Science; Arts; Foreign Languages; Comprehensive Health; English Language Proficiency

Michigan *Grade Level Content Expectations* (<http://www.michigan.gov/mde/0,1607,7-140-28753---,00.html>)

Additional subject area standards: Arts; Career and Employability Skills; Health Education; Physical Education; Social Studies; World Languages

Minnesota *Academic Standards*

(http://education.state.mn.us/MDE/Academic_Excellence/Academic_Standards/index.html)

Additional subject area standards: Agricultural Education; Arts; Business & Marketing; Family & Consumer Services and Science Occupations; Health Science; Health & Physical Education; Social Studies; Trades & Industry Technology; World Languages

Mississippi Curriculum Framework (http://www.mde.k12.ms.us/Curriculum/index_1.htm)

Additional subject area standards: Business & Technology; Comprehensive Health; Foreign Language; Physical Education; Social Studies; Visual & Performing Arts; Vocational Education Curriculum

Missouri Grade-Level Expectations (<http://dese.mo.gov/standards/content.html>)

Additional subject area standards: Social Studies; Physical Education; Health Education; Music; Visual Arts; Theater

Montana Montana Content Standards and Performance Descriptors

(<http://www.opi.state.mt.us/Accred/cstandards.html>)

Additional subject area standards: Arts; Career & Vocational-Technical Education; Health Enhancement; Library Media; Library Information Skills; Social Studies; Technology; Traffic Education; Workplace Competencies; World Languages

Nebraska Academic Standards (<http://www.nde.state.ne.us/ndestandards/AcademicStandards.htm>)

Additional subject area standards: Social Studies/History

Nevada Academic Standards (<http://www.doe.nv.gov/standards.html>)

Additional subject area standards: the Arts; Career & Technical Education; Computers & Technology; English as a Second Language; Foreign Language; Health & Physical Education; Information Literacy; Social Studies

New Hampshire Curriculum Frameworks (<http://www.ed.state.nh.us/education/doe/organization/curriculum/CurriculumFrameworks/CurriculumFrameworks.htm>)

Additional subject area standards: Social Studies; Arts; Health; World Language; Career Development; Physical Education

New Jersey Core Curriculum Content Standards (<http://www.state.nj.us/education/cccs/>)

Additional subject area standards: Social Studies; Visual & Performing Arts; Comprehensive Health & Physical Education; World Languages; Technological Literacy; Career Education; Consumer, Family and Life Skills

New Mexico Content Standards (<http://www.ped.state.nm.us/nmStandards.html>)

Additional subject area standards: Health Education; Modern, Classical & Native Languages; Physical Education; Social Studies; Visual & Performing Arts

New York NYS Learning Standards and Core Curriculum (<http://www.emsc.nysed.gov/ciai/cores.htm>)

Additional subject area standards: Arts; Career Development & Occupational Studies; Family & Consumer Sciences; Health Education; Languages Other Than English; Physical Education; Social Studies; Technology Education

North Carolina *Standard Course of Study* (<http://www.ncpublicschools.org/curriculum/>)
Additional subject area standards: Social Studies; Arts Education; Computer/Technology Skills; English as a Second Language; Guidance; Healthful Living; Information Skills; Second Languages; Career Technical Education

North Dakota *Content and Achievement Standards* (<http://www.dpi.state.nd.us/standard/content.shtm>)
Additional subject area standards: Arts; Foreign Languages; Health; Library/Technology Literacy; Physical Education; Social Studies

Ohio *Academic Content Standards* (<http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEPrimary.aspx?Page=2&TopicID=7&TopicRelationID=305>)
Additional subject area standards: Fine Arts; Foreign Languages; Social Studies; Technology

Oklahoma *Priority Academic Student Skills*
(http://www.sde.state.ok.us/home/home01_test.html?http://www.sde.state.ok.us/publ/pass.html!)
Additional subject area standards: Social Studies; The Arts; Languages; Health; Safety & Physical Education; Information Literacy; Instructional Technology; Technology Education

Oregon *State Standards* (<http://www.ode.state.or.us/teachlearn/real/standards/default.aspx>)
Additional subject area standards: Social Sciences; Arts; Career-Related Learning; Health Education; Physical Education; Second Language; English Language Proficiency; Technology

Pennsylvania *Academic Standards* (http://www.pde.state.pa.us/stateboard_ed/cwp/view.asp?A=3&Q=76716)
Additional subject area standards: Civics & Government; Economics; Geography; History; Arts and Humanities; Career Education & Work; Family & Consumer Sciences; Health, Safety & Physical Education

Rhode Island *Curriculum Continuum* (<http://www.ride.ri.gov/instruction/curriculum/>)
Additional subject area standards: Social Studies; Family/Consumer Science Education; Health Education Framework; Physical Education Framework; Engineering and Technology

South Carolina *Academic Standards* (<http://ed.sc.gov/agency/offices/cso/>)
Additional subject area standards: Social Studies; Modern & Classical Languages; Physical Education; Health & Safety Education; Visual & Performing Arts

South Dakota *Content Standards* (<http://doe.sd.gov/contentstandards/>)

Additional subject area standards: Agriculture Education; Business; Computer & Marketing; Family & Consumer Science; Fine Arts; Health Education; Health Occupations; Personal Finance; Physical Education; Social Studies; Technology Education; Trade & Industrial Education; World Language

Tennessee *Curriculum Standards (2008-2009 & 2009-2010)* (<http://www.tennessee.gov/education/ci/curriculum.shtml>)

Additional subject area standards: Arts Education; Computer Technology; Counseling/Guidance; Foreign Language; Health/PE/Wellness; Service Learning; Social Studies; English as a Second Language (ESL/ELL)

Texas *Texas Essential Knowledge and Skills* (<http://www.tea.state.tx.us/teks/>)

Additional subject area standards: Social Studies; Languages Other Than English; Health Education; Physical Education; Fine Arts; Economics with Emphasis on the Free Enterprise System and Its Benefits; Agricultural Science and Technology Education; Business Education; Health Science Technology Education; Home Economics Education; Technology Education/Industrial Technology Education; Marketing Education; Trade and Industrial Education; Technology Applications; Career Orientation; Spanish Language Arts; English as a Second Language

Utah *Core Curriculum* (<http://www.schools.utah.gov/curr/core/page2.htm>)

Additional subject area standards: Social Studies; Fine Arts; Foreign Language; Library Media; Responsible Healthy Lifestyles; Health; Educational Technology; Physical Education

Vermont *Framework of Standards and Learning Opportunities*

(<http://education.vermont.gov/new/html/pubs/framework.html>)

Additional subject area standards: History & Social Sciences; Arts; Health; Information Technology; Non-native Languages; Physical Education

Virginia *Standards of Learning* (<http://www.doe.virginia.gov/VDOE/Superintendent/Sols/home.shtml>)

Additional subject area standards: History & Social Science; Fine Arts; Foreign Language; Health; Physical Education; Computer Technology

Washington *Washington State Learning Standards* (<http://www.k12.wa.us/curriculum/instruct/>)

Additional subject area standards: Social Studies; The Arts; Health & Fitness; Career & Technical Education; International Education; Education for Environment & Sustainability; Educational Technology

West Virginia *Content Standards and Objectives* (<http://wvde.state.wv.us/policies/csos.html>)

Additional subject area standards: Social Studies; Health; Physical Education; Foreign Language; Library Media; Driver Education; Dance; Music; Theatre; Art; Vocational

Wisconsin *Model Academic Standards* (<http://dpi.wi.gov/standards/>)

Additional subject area standards: Agricultural Education; Art & Design Education; Business; Dance; Environmental Education; Family & Consumer Education; Foreign Languages; Health Education; Information & Technology Literacy; Marketing Education; Music Education; Personal Financial Literacy; Physical Education; Social Studies; Technology Education; Theatre Education

Wyoming *Content and Performance Standards* (<http://www.k12.wy.us/SAA/standards.asp>)

Additional subject area standards: Career/Vocational; Fine & Performing Arts; Health; Foreign Language; Physical Education; Social Studies

Appendix B: Sources and Additional Subjects for Table 3

Grades 9–12 State Standards Articulation by Subject (ELA, Mathematics, Science)

Alabama *Courses of Study* (http://www.alsde.edu/html/sections/section_detail.asp?section=54) (Click on Publications).

Mathematics-specific course standards: Algebra IA; Algebra IB; Geometry A; Geometry B; Algebraic Connections; Algebra II; Algebra II with Trigonometry; Pre-Calculus; Algebra III with Statistics

Science-specific course standards: Physical Science; Biology; Chemistry; Physics; Aquascience; Botany; Earth & Space Science; Environmental Science; Forensic Science; Genetics; Geology; Human Anatomy & Physiology; Marine Science; Zoology

Additional subject area standards: Arts; Physical Education; Languages Other Than English; Health Education; Social Studies; Technology Education; Driver and Traffic Safety Education

Alaska *Content Standards* (<http://www.eed.state.ak.us/standards/>)

Additional subject area standards: Alaska History; Geography; Government & Citizenship; History; Skills for a Healthy Life; the Arts; World Languages; Technology; Employability; Library/Information Literacy; Cultural Standards; English Language Proficiency

Arizona *Academic Standards* (<http://www.ade.state.az.us/standards/contentstandards.asp>)

ELA: Listening/Speaking: Honors

ELA: Viewing/Presenting: Honors

Science-specific course standards: Life Science; Physical Science; Earth & Space Science

Additional subject area standards: The Arts; Comprehensive Health Education/Physical Activity; Foreign and Native Language; Social Studies; Technology; Workplace Skills

Arkansas *Curriculum Frameworks* (http://arkedu.state.ar.us/curriculum/curriculum_framework.html and <http://arkansased.org/index.html>)

Mathematics-specific course standards: Algebra I; Algebra II; Algebra III; Algebra A; Algebra B; Algebraic Connections; Geometry; Geometry A; Geometry B; Investigating Geometry; Precalculus & Trigonometry; Statistics; Topics in Discrete Math; Topics in Finite Math; Computer Math; Transition to College Math

Science-specific course standards: Anatomy & Physiology; Biology; Chemistry; Environmental Science; Physical Science; Physics

Additional subject area standards: Arkansas History; English Language Acquisition; Fine Arts; Foreign Language; Music; Physical Education and Health; Social Studies

California Content Standards (<http://www.cde.ca.gov/be/st/ss/>)

Mathematics-specific course standards: Algebra I (grade 8); Geometry; Algebra II; Trigonometry; Mathematical Analysis; Linear Algebra; Probability & Statistics; AP Probability & Statistics; Calculus

Additional subject area standards: History-Social Science; Career Technical Education; Physical Education; Visual & Performing Arts; English Language Development

Colorado Model Content Standards (http://www.cde.state.co.us/cdeassess/documents/olr/k12_standards.html)

Additional subject area standards: Civics; Dance; Economics; Foreign Language; Geography; History; Music; Physical Education; Theatre; Visual Arts

Connecticut Curriculum Standards (<http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=321696>)

Science-specific course standards: Biology; Chemistry; Physics; Earth Science

Additional subject area standards: Advanced Placement; Agricultural Science; Arts; Business and Finance Technology; Cooperative Work Education; Early Reading; Education Technology; English as a Second Language-Bilingual Education; Family and Consumer Sciences; Gifted and Talented; Health; Learning Resources-Information Technology-Library Media; Marketing Education; Medical Careers; Physical Education; Social Studies; Technology Education; World Languages

Delaware Recommended Curriculum Content Standards

(http://www.doe.k12.de.us/programs/ci/DRC/drc_contentStandards.shtml and http://www.doe.k12.de.us/programs/ci/content_areas/ela.shtml)

Additional subject area standards: AgriScience; Business, Finance & Marketing; Family & Consumer Services; Health Education; Physical Education; Social Studies; Skilled Technical Sciences; Technical Education; Visual & Performing Arts; World Languages

District of Columbia Learning Standards (<http://www.k12.dc.us/teachingandlearning.htm>)

Mathematics-specific course standards: Algebra I; Geometry; Algebra II; Probability & Statistics; Precalculus & Calculus

Science-specific course standards: Earth Science; Biology; Chemistry; Physics; Environmental Science

Additional subject area standards: Social Studies

Florida Sunshine State Standards (<http://www.fldoe.org/BII/Curriculum/SSS/>)

Additional subject area standards: Social Studies; Physical Education; World Languages; Fine Arts; Health Education; Workforce Education

Georgia Performance Standards and Quality Core Curriculum

(<http://www.georgiastandards.org/>)

ELA-specific course standards: American Literature & Composition; British Literature & Composition; World Literature & Composition; Literature & History of the Old Testament; Literature & History of the New Testament; AP English Language & Composition

Mathematics-specific course standards: Mathematics I, II, III, and IV; Accelerated Mathematics I, II, and III

Science-specific course standards: Biology; Chemistry; Earth Systems; Environmental Science; Human Anatomy & Physiology; Physical Science; Physics

Additional subject area standards: Social Studies; Career, Technical & Agricultural Performance Standards; Modern Languages & Latin

Hawaii *Content and Performance Standards* (<http://standardstoolkit.k12.hi.us/index.html>)

Mathematics-specific course standards: Pre-algebra; Algebra; Algebra II; Geometry; Trigonometry; Analytical Geometry; Probability; Statistics; Calculus

Science-specific course standards: Physical Science; Biological Science; Earth & Space Science; Physics; Chemistry

Additional subject area standards: Social Studies; Career and Technical Education; Health; Fine Arts; Physical Education; World Languages

Idaho *Content Standards with Limits* (<http://www.sde.idaho.gov/ContentStandards/>)

Language Arts: Reading-specific course standards: Speech

Language Arts: Language Usage-specific course standards: Speech

Science-specific course standards: Earth Science; Physical Science; Biology

Additional subject area standards: Health; Humanities; Physical Education; Social Studies; Limited English Proficiency

Illinois *Illinois Learning Standards* (<http://www.isbe.net/ils/>)

Additional subject area standards: Social Science; Fine Arts; Foreign Languages; Physical Development & Health; Social Emotional Learning

Indiana *Academic Standards and Resources* (<http://ideanet.doe.state.in.us/standards/welcome2.html>)

Mathematics-specific course standards: Algebra I; Algebra II; Calculus; AP Discrete Mathematics; Geometry; Pre-calculus/Trigonometry; Probability & Statistics; Integrated Mathematics I; Integrated Mathematics II; Integrated Mathematics III

Science-specific course standards: Biology I; Chemistry; Earth & Space Science I; Environmental Science, Advanced; Human Anatomy & Physiology; Integrated Chemistry - Physics; Physics I; Advanced Life Science

Additional subject area standards: Social Studies; Agriculture Education; Business and Marketing Education; Career and Technical Programs; Dance; Family & Consumer Sciences; Health & Wellness; Music/Visual Arts; Physical Education; Theatre; Trade & Industrial Education; World Languages; English Language Proficiency; Technology Education; Journalism

Iowa *Core Content Standards, Benchmarks, and Grade Level Indicators*(<http://www.iowa.gov/educate/content/view/1350/1554/>)**Kansas** *Curricular Standards* (<http://www.ksde.org/Default.aspx?tabid=1678>)

Additional subject area standards: English to Speakers of Other Languages; History & Government, Economics & Geography; Communications; Dance; Driver Education; Environmental Education; Health Education; Library Media; Listening, Viewing, Speaking; Music; Physical Education; Theatre; Visual Arts; World Languages & English as a Second Language

Kentucky *Combined Curriculum Document* (<http://www.education.ky.gov/KDE/Instructional+Resources/Curriculum+Documents+and+Resources/Teaching+Tools/Combined+Curriculum+Documents/default.htm>)

Additional subject area standards: Arts and Humanities; Practical Living/Vocational Studies; Social Studies; Technology

Louisiana *Grade-Level Expectations* (<http://www.doe.state.la.us/lde/saa/1915.html> and <http://www.doe.state.la.us/lde/saa/1916.html>)

Science-specific course standards: Physical Science; Biology; Chemistry; Earth Science; Environmental Science; Physics

Additional subject area standards: Social Studies; Foreign Language; The Arts; Health & Physical Education

Maine *Learning Results: Parameters for Essential Instruction* (<http://www.maine.gov/education/lres/pei/index.html>)

Additional subject area standards: Social Studies; Career and Education Development; Health & Physical Education; Visual & Performing Arts; World Languages

Maryland *Voluntary State Curriculum* (<http://www.mdk12.org/instruction/index.html>)

Mathematics-specific course standards: Algebra/Data Analysis; Algebra II; Geometry

Science-specific course standards: Biology

Additional subject area standards: Social Studies; Fine Arts; Health & PE; Foreign Language; English Language Proficiency; Technology Education

Massachusetts *Curriculum Frameworks* (<http://www.doe.mass.edu/frameworks/current.html>)

Mathematics-specific course standards: Algebra I; Geometry; Algebra II; Pre-calculus

Additional subject area standards: History & Social Science; Arts; Foreign Languages; Comprehensive Health; English Language Proficiency

Michigan *Michigan Merit Curriculum* (<http://www.michigan.gov/mde/0,1607,7-140-28753---,00.html>)

Mathematics-specific course standards: Algebra I; Algebra II; Geometry; Pre-calculus; Statistics & Probability

Science-specific course standards: Biology; Chemistry; Earth Science; Physics

Additional subject area standards: Arts; Career and Employability Skills; Health Education; Physical Education; Social Studies; World Languages

Minnesota Academic Standards

(http://education.state.mn.us/MDE/Academic_Excellence/Academic_Standards/index.html)

Additional subject area standards: Agricultural Education; Arts; Business & Marketing; Family & Consumer Services and Science Occupations; Health Science; Health & Physical Education; Social Studies; Trades & Industry Technology; World Languages

Mississippi Curriculum Framework (http://www.mde.k12.ms.us/Curriculum/index_1.htm)

ELA-specific course descriptions: Accelerated English; AP: English Language & Composition; AP: English Literature & Composition; African-American Literature; The American Novel; Broadcast Journalism; Compensatory Reading, Course I; Compensatory Reading, Course II; Compensatory Writing, Course I; Compensatory Writing, Course II; Creative Writing; Debate I; Debate II; Debate III; Developmental Reading; Introduction to Journalism; Journalism Laboratory I, II, III; Mississippi Writers; Mythology; Oral Communication (Middle School); Oral Communication I; Oral Communication II; Public Speaking; Short Story; Technical & Workplace Writing; Twentieth Century Literature; World Literature; Written Communication

Mathematics-specific course descriptions: Pre-Algebra; Transition to Algebra; Algebra I; Geometry; Algebra II; Advanced Algebra; Trigonometry; Pre-Calculus; Discrete Mathematics; Calculus; Statistics; Survey of Mathematical Topics; Introduction to Engineering

Science-specific course descriptions: Physical Science; Earth Science; Biology I & II; Chemistry I & II; Physics I & II; Human Anatomy & Physiology; Science Skills & Reasoning; Biomedical Research; Spatial Information Science; Genetics; Microbiology; Molecular Biology; Botany; Zoology; Aquatic Science; Environmental Science; Geology; Astronomy; Aerospace Studies; Organic Chemistry

Additional subject area standards: Business & Technology; Comprehensive Health; Foreign Language; Physical Education; Social Studies; Visual & Performing Arts; Vocational Education Curriculum

Missouri Grade- and Content-Level Expectations

(<http://dese.mo.gov/standards/content.html>)

Mathematics-specific course standards: Algebra I; Geometry; Algebra II; Integrated Math II; Integrated Math III

Science-specific course standards: Physical Science; Physics I; Chemistry I; Biology I; Earth & Space Science

Additional subject area standards: Social Studies; Physical Education; Health Education; Music; Visual Arts; Theater

Montana *Montana Content Standards and Performance Descriptors*

(<http://www.opi.state.mt.us/Accred/cstandards.html>)

Additional subject area standards: Arts; Career & Vocational-Technical Education; Health Enhancement; Library Media; Library Information Skills; Social Studies; Technology; Traffic Education; Workplace Competencies; World Languages

Nebraska *Academic Standards* (<http://www.nde.state.ne.us/ndestandards/AcademicStandards.htm>)

Additional subject area standards: Social Studies/History

Nevada *Academic Standards* (<http://www.doe.nv.gov/standards.html>)

Additional subject area standards: the Arts; Career & Technical Education; Computers & Technology; English as a Second Language; Foreign Language; Health & Physical Education; Information Literacy; Social Studies

New Hampshire *Curriculum Frameworks* (<http://www.ed.state.nh.us/education/doe/organization/curriculum/CurriculumFrameworks/CurriculumFrameworks.htm>)

Additional subject area standards: Social Studies; Arts; Health; World Language; Career Development; Physical Education

New Jersey *Core Curriculum Content Standards* (<http://www.state.nj.us/education/cccs/>)

Additional subject area standards: Social Studies; Visual & Performing Arts; Comprehensive Health & Physical Education; World Languages; Technological Literacy; Career Education; Consumer, Family and Life Skills

New Mexico *Content Standards* (<http://www.ped.state.nm.us/nmStandards.html>)

Additional subject area standards: Health Education; Modern, Classical & Native Languages; Physical Education; Social Studies; Visual & Performing Arts

New York *NYS Learning Standards and Core Curriculum* (<http://www.emsc.nysed.gov/ciai/cores.htm>)

Mathematics-specific course standards: Algebra; Geometry; Algebra II and Trigonometry

Additional subject area standards: Arts; Career Development & Occupational Studies; Family & Consumer Sciences; Health Education; Languages Other Than English; Physical Education; Social Studies; Technology Education

North Carolina *Standard Course of Study* (<http://www.ncpublicschools.org/curriculum/>)

ELA-specific course standards: AP English Language and Composition; AP English Literature and Composition

Mathematics-specific course standards: Introductory Mathematics; Algebra I; Geometry; Algebra II; Technical Mathematics I; Technical Mathematics II;

Advanced Functions; Discrete Mathematics; Pre-calculus; Integrated Mathematics I; Integrated Mathematics II; Integrated Mathematics III; Integrated Mathematics IV; AP Statistics; AP Calculus

Science-specific course standards: Biology; Chemistry; Earth/Environmental; Physical Science; Physics; AP Biology; AP Chemistry; AP Environmental Science; AP Physics; AP Physics B; AP Physics C

Additional subject area standards: Social Studies; Arts Education; Computer/Technology Skills; English as a Second Language; Guidance; Healthful Living; Information Skills; Second Languages; Career Technical Education

North Dakota *Content and Achievement Standards* (<http://www.dpi.state.nd.us/standard/content.shtml>)

Additional subject area standards: Arts; Foreign Languages; Health; Library/Technology Literacy; Physical Education; Social Studies

Ohio *Academic Content Standards* (<http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEPrimary.aspx?Page=2&TopicID=7&TopicRelationID=305>)

Additional subject area standards: Fine Arts; Foreign Languages; Social Studies; Technology

Oklahoma *Priority Academic Student Skills* (http://www.sde.state.ok.us/home/home01_test.html?http://www.sde.state.ok.us/publ/pass.html!)

Mathematics-specific course standards: Algebra I; Geometry; Algebra II

Science-specific course standards: Biology I; Chemistry; Physics; Physical Science

Additional subject area standards: Social Studies; The Arts; Languages; Health; Safety & Physical Education; Information Literacy; Instructional Technology; Technology Education

Oregon *State Standards* (<http://www.ode.state.or.us/teachlearn/real/standards/default.aspx>)

Additional subject area standards: Social Sciences; Arts; Career-Related Learning; Health Education; Physical Education; Second Language; English Language Proficiency; Technology

Pennsylvania *Academic Standards* (http://www.pde.state.pa.us/stateboard_ed/cwp/view.asp?A=3&Q=76716)

Additional subject area standards: Civics & Government; Economics; Geography; History; Arts and Humanities; Career Education & Work; Family & Consumer Sciences; Health, Safety & Physical Education

Rhode Island *Curriculum Continuum* (<http://www.ride.ri.gov/instruction/curriculum/>)

Additional subject area standards: Social Studies; Family/Consumer Science Education; Health Education Framework; Physical Education Framework; Engineering and Technology

South Carolina Academic Standards (<http://ed.sc.gov/agency/offices/cso/>)

ELA-specific course standards: English 1; English 2; English 3; English 4

Additional subject area standards: Social Studies; Modern & Classical Languages; Physical Education; Health & Safety Education; Visual & Performing Arts

South Dakota Content Standards (<http://doe.sd.gov/contentstandards/>)

Additional subject area standards: Agriculture Education; Business; Computer & Marketing; Family & Consumer Science; Fine Arts; Health Education; Health Occupations; Personal Finance; Physical Education; Social Studies; Technology Education; Trade & Industrial Education; World Language

Tennessee Curriculum Standards (2008-2009 & 2009-2010) (<http://www.tennessee.gov/education/ci/curriculum.shtml>)

ELA-specific course standards approved in 2008: English I; English II; English III; English IV. *Other English course standards:* English IV: Communication for Life; AP English Language & Composition; AP English Literature & Composition; Journalism; Competency English; Creative Writing; Speech; Content Area Reading

Mathematics-specific course standards approved in 2008: Algebra I; Algebra II; Geometry. *Other mathematics-specific course standards:* Advanced Algebra and Trigonometry; Calculus; Discrete Mathematics with Statistics & Probability; Foundations I; Foundations II; Integrated Mathematics I; Integrated Mathematics II; Integrated Mathematics III; Pre-Calculus; Statistics; Technical Algebra; Technical Geometry; Technical Mathematics; AP Calculus AB; AP Calculus BC; AP Statistics

Science-specific course standards approved in 2008: Biology I; Biology II; Chemistry I; Chemistry II; Conceptual Physics; Earth Science; Ecology; Environmental Science; Geology; Human Anatomy & Physiology; Physical Science; Physics; Scientific Research. *Other science-specific course standards:* AP Biology; AP Chemistry; AP Physics B; AP Physics C; CTE Agriscience; CTE Biology for Technology; CTE Nutrition Science; CTE Principles of Technology I; CTE Principles of Technology II; Gateway Biology; Life Science

Additional subject area standards: Arts Education; Computer Technology; Counseling/Guidance; Foreign Language; Health/PE/Wellness; Service Learning; Social Studies; English as a Second Language (ESL/ELL)

Texas Texas Essential Knowledge and Skills (<http://www.tea.state.tx.us/teks/>)

ELA-specific course standards: English I; English II; English III; English IV; Independent Study in English; Reading I, II, III; Reading Application and Study Skills; Analysis of Visual Media; Media Literacy-Speech; Literary Genres; Creative and Imaginative Writing; Research and Technical Writing; Practical Writing Skills; Humanities; Speech Communication; Public Speaking I, II, III; Communication Applications; Oral Interpretation I, II, III; Debate I, II, III; Independent Study in Speech; Journalism; Independent Study in Journalism; Advanced Broadcast Journalism I, II, III; Photojournalism; Advanced Journalism;

Independent Study in English, Journalism, and/or Speech; AP English Language and Composition; AP English Literature and Composition; AP International English Language; IB Language Studies A1 Standard Level; IB Language Studies A1 Higher Level

Mathematics-specific course standards: Algebra I; Algebra II; Geometry; Pre-calculus; Mathematical Models with Applications; Independent Study in Mathematics; AP Statistics; AP Calculus AB; AP Calculus BC; IB Mathematical Studies Standard Level; IB Mathematics Standard Level; IB Mathematics Higher Level; IB Further Mathematics Standard Level

Science-specific course standards: Integrated Physics and Chemistry; Biology; Environmental Systems; Chemistry; Aquatic Science; Physics; Astronomy; Geology, Meteorology, and Oceanography; AP Biology; AP Chemistry; AP Physics B; AP Physics C; AP Environmental Science; IB Biology; IB Chemistry; IB Physics; IB Environmental Systems

Additional subject area standards: Social Studies; Languages Other Than English; Health Education; Physical Education; Fine Arts; Economics with Emphasis on the Free Enterprise System and Its Benefits; Agricultural Science and Technology Education; Business Education; Health Science Technology Education; Home Economics Education; Technology Education/Industrial Technology Education; Marketing Education; Trade and Industrial Education; Technology Applications; Career Orientation; Spanish Language Arts; English as a Second Language

Utah Core Curriculum (<http://www.schools.utah.gov/curr/core/page2.htm>)

Mathematics-specific course standards: Algebra A (AAS); Algebra B; Algebra 1; Geometry; Algebra 2; Pre-Calculus; AP Calculus; AP Statistics

Science-specific course standards: Earth Systems Science; Biology; Chemistry; Physics

Additional subject area standards: Social Studies; Fine Arts; Foreign Language; Library Media; Responsible Healthy Lifestyles; Health; Educational Technology; Physical Education

Vermont Grade Expectations for Vermont's Framework of Standards and Learning Opportunities (<http://education.vermont.gov/new/html/pubs/framework.html>)

Additional subject area standards: History & Social Sciences; Arts; Health; Information Technology; Non-native Languages; Physical Education

Virginia Standards of Learning (<http://www.doe.virginia.gov/VDOE/Superintendent/Sols/home.shtml>)

Mathematics-specific course standards: Algebra I; Geometry; Algebra II; Trigonometry; Algebra II & Trigonometry; Computer Mathematics; Probability & Statistics; Discrete Mathematics; Mathematical Analysis; AP Calculus

Science-specific course standards: Life Science; Physical Science; Earth Science; Biology; Chemistry; Physics

Additional subject area standards: History & Social Science; Fine Arts; Foreign Language; Health; Physical Education; Computer Technology

Washington *Washington State Learning Standards* (<http://www.k12.wa.us/curriculuminstruct/>)

Additional subject area standards: Social Studies; The Arts; Health & Fitness

West Virginia *Content Standards and Objectives* (<http://wvde.state.wv.us/policies/csos.html>)

ELA-specific course standards: Speech 1; Journalism

Mathematics-specific course standards: Algebra; Algebra II; Algebra/Geometry Preparation; Applied Mathematics I; Applied Mathematics II; Conceptual Mathematics; Geometry and Applied Geometry; Pre-calculus; Probability and Statistics; Trigonometry

Science-specific course standards: Advanced Biology; Advanced Chemistry; Advanced Physics; Advanced Environmental Earth Science; Biology – Technical Conceptual; Chemistry – Technical Conceptual; Human Anatomy & Physiology; Physics – Technical Conceptual

Additional subject area standards: Social Studies; Health; Physical Education; Foreign Language; Library Media; Driver Education; Dance; Music; Theatre; Art; Vocational

Wisconsin *Model Academic Standards* (<http://dpi.wi.gov/standards/>)

Additional subject area standards: Agricultural Education; Art & Design Education; Business; Dance; Environmental Education; Family & Consumer Education; Foreign Languages; Health Education; Information & Technology Literacy; Marketing Education; Music Education; Personal Financial Literacy; Physical Education; Social Studies; Technology Education; Theatre Education

Wyoming *Content and Performance Standards* (<http://www.k12.wy.us/SAA/standards.asp>)

Additional subject area standards: Career/Vocational; Fine & Performing Arts; Health; Foreign Language; Physical Education; Social Studies

References

Glidden, H. (Spring, 2008) *Common Ground: Clear, Specific Content Holds Teaching, Texts, and Tests Together*. American Educator. Washington, D.C.: American Federation of Teachers.

Mid-continental Research for Education and Learning. (n.d.). Content Knowledge (4th ed.). Retrieved April 2, 2008, from <http://www.mcrel.org/standards-benchmarks/>

Rabinowitz, S., Roeber, E., Schroeder, C., & Sheinker, J. (2006). *Creating aligned standards and assessment systems*. Issue paper prepared by the Transitions in Assessment/Comprehensive Assessment Systems (CAS) State Collaborative on Assessment and Student Standards (SCASS). Washington, DC: CCSSO.