

**Analysis of the New Mexico Content Standards and the
Common Core State Standards for English Language Arts
and Mathematics**

Final Report

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Prepared for the New Mexico Public Education Department by



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Analysis of the New Mexico Content Standards and the Common Core State Standards for English Language Arts and Mathematics

I. Introduction

At the request of the New Mexico Public Education Department (NMPED), WestEd conducted an analysis of the correspondence between the Common Core State Standards (CCSS or Common Core) and the New Mexico Content Standards (NM standards). This study addressed the following key question:

To what extent do the NM standards in English language arts (ELA) and mathematics correspond with the CCSS?

This report provides an overview of the methodology and results for ELA and mathematics for grades K–12, followed by a section providing implications and recommendations. A set of charts showing correspondence ratings and notes for the CCSS at each grade level, as well as a list of NM standards not matched to any grade-appropriate Common Core standard, are included in the appendices.

The WestEd project director and analysts participating in this study collectively possess expertise and experience in alignment, assessment and standards development, the content areas (i.e., ELA and mathematics), and K–12 curriculum and instruction. Moreover, they have experience and familiarity in working with the CCSS, including involvement in previous analyses comparing the CCSS to state standards for Colorado, Louisiana, Massachusetts, and Nevada, for example.

II. Methodology

WestEd analysts first completed a thorough review of the WestEd alignment protocol and criteria for the study as well as a review of the NM standards and the CCSS. WestEd analysts then conducted an analysis of a subset of standards, and, as a group, discussed their analyses (i.e., aligned standards, degree of CCSS coverage). Finally, WestEd analysts completed a calibration process on a set of standards across all the grades to ensure they were independently able to accurately and consistently apply the alignment protocol and criteria.

During training, calibration, and analysis, WestEd analysts, when appropriate, developed *decision rules*, which are guidelines for the application of the criteria to help ensure standardization of the alignment process (see Appendix A). Decision rules were created to address specific issues and circumstances that arose during the analyses, as well as to document understanding and interpretation of constructs, content, and nuances of both the NM standards and the CCSS.

Using a matrix that shows each Common Core standard at each grade level within each of the two content areas, the WestEd analysts examined the content correspondence between the two sets of

standards¹ (see Appendix B for the completed matrices for ELA, and Appendix C for the completed matrices for mathematics). The analysts first looked for on-grade NM standards that align with the skills and knowledge of the Common Core standard, and recorded the corresponding standard codes² in the “NM On-grade Standard(s)” column. If no on-grade alignment was found for a particular Common Core standard, the analysts then looked for off-grade alignments (i.e., a NM standard from a different grade that aligns with the skills and knowledge of the Common Core standard), and recorded the corresponding standard codes in the “NM Off-grade Standard(s)” column. Analysts then determined the degree to which the content of each Common Core standard was covered by the aligned NM standard or standards, rating each standard as having “Full,” “Partial,” or “No” coverage according to the following criteria:

- Full Coverage (F): The NM standards address the skills or concepts as explicitly described in the Common Core standard. (Note: the wording of the standards does not have to match exactly for a Full rating, as long as the essential content of the standards overlaps sufficiently.)
- Partial Coverage (P): The NM standards address the skills and concepts described in the Common Core standard superficially or incompletely; the NM standards cover targeted skills at a lower or higher complexity level than the Common Core standard.
- No Coverage (N). There is no *grade-appropriate*³ NM standard explicitly addressing the content of the Common Core standard.

Analysts added notes for all “Partial” or “No” ratings, addressing where relevant the nature of the gap (e.g., differences in inclusion of particular skills and knowledge, extent of detail or specificity, or breadth and depth of content). Where relevant, analysts added comments about “Full” coverage ratings as well.

This analysis used a double-rater “read-behind” model. The first analyst, a grade-level content specialist, independently determined alignment and coverage ratings for all standards for a grade level. The second analyst, the content lead, then conducted a read-behind of the first analyst’s results, noting areas of disagreement. The two analysts then met and discussed any discrepant judgments, agreeing on a final single determination of standard alignments, coverage ratings, and accompanying notes. In the rare cases where the two analysts could not come to agreement, the content lead and the project director further analyzed the standards, notes, and decision rules to determine a final rating. After the matrix was completed for all grade levels, the content lead conducted a final review, checking the consistency of the alignments and ratings across grade levels.

¹ For ELA, the level of analysis was at the numbered and lettered standards; for mathematics, the level of analysis was at the numbered standard only. The CCSS for ELA standards tend to include key content in the lettered standards, while the CCSS for mathematics standards tend to include details or examples in the lettered standards.

² Codes for mathematics follow the coding system in the NM standards documents. Codes for ELA are composed as follows: Benchmark (Roman numeral plus letter), Grade(s), Performance Standard/Indicator (number and optional letter); for example: I-A.K.3; II-C.5.2.c; V-E.11-12.4.

³ During the analysis, analysts determined that appropriate alignment hinged on defining “grade-appropriate” matches among standards; the definition of *grade-appropriate* for each content area is discussed below.

Examples of the analysts' thought processes for determining full versus partial coverage for a particular standard are provided below for each content area.

ELA: Partial coverage of the CCSS by NM standards

CCSS RL.9-10.2 "Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text."

The following on-grade NM standard matches to this Common Core standard:

I-B.9.2 "Recognize and recall main ideas by selecting topic sentences, identifying thesis statements, selecting key words and phrases, and summarizing the material."

While both standards address determining a main idea and summarizing a text, the Common Core standard also includes determining a theme and analyzing the development of the theme or main idea over the course of the text, which involve higher level concepts and skills than those described in the NM standard. Thus, the NM standard provides only partial coverage of the Common Core standard.

ELA: Full coverage of the CCSS by NM standards

CCSS RL.9-10.5 "Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise."

The following two on-grade NM standards match to this Common Core standard:

IX-B.9.1 "Recognize an author's manipulation of time and sequence (e.g., to create effects such as suspense)."

IX-C.10.2 "Analyze essential elements of plot (e.g., setting, exposition, conflict, rising action, climax, dénouement) and identify the various effects of flashback, foreshadowing, and multiple subplots."

While the exact wording of the Common Core and NM standards varies slightly, the essential content in the Common Core standard, analyzing an author's ordering of events and manipulation of time to create particular effects, is fully addressed by the two NM standards taken together.

Mathematics: Partial coverage of the CCSS by NM standards

CCSS 5.NBT.5 “Fluently multiply multi-digit whole numbers using the standard algorithm.”

The following off-grade NM standard matches to this Common Core standard:

4.N.2.1b “Demonstrate an understanding of the ability to use:
b. standard algorithms for multiplying a multi-digit number by a two-digit number”

While both standards address using standard algorithms to multiply whole numbers, the NM standard limits one factor to two digits, while the Common Core standard does not. Thus, the NM standard addresses the Common Core standard at a lower level of complexity.

Mathematics: Full coverage of the CCSS by NM standards

CCSS 5.G.4 “Classify two-dimensional figures in a hierarchy based on properties.”

The following on-grade NM standard matches to this Common Core standard:

5.G.1.1 “Identify, describe, and classify two-dimensional shapes and three-dimensional figures by their properties.”

The NM standard, while it includes additional skills (identification and description, three-dimensional figures), fully addresses the Common Core content of classifying two-dimensional figures based on properties.

The final step of analysis was to compile a list of all NM standards not aligned to any *grade-appropriate* Common Core standard (see Appendix D for a list of all unmatched NM standards for ELA, and Appendix E for a list of all unmatched NM standards for mathematics). For ELA, “grade-appropriate” was defined as within the range of two grades above and two grades below a given grade; that is, if analysts found no on-grade NM standards aligned to a Common Core standard at a particular grade level, they then looked for off-grade alignments to NM standards in the next two grades above or below that grade level, but did not look beyond those grade levels for additional aligned standards. This definition is based on the way that ELA content is typically conceptualized and organized across grade levels, as exemplified by the CCSS for ELA, where the same basic concept, as represented by an anchor standard, is the same for all grades (K–12), while the grade-specific standards specify how that concept is realized for the cognitive and maturational expectations of students at that particular grade level. Thus, while a focus on summarizing supporting details, for example, might appear at both grade 4 and grade 8, the expectations of what students know and can do related to that focus could be very different. For mathematics, though strands such as “number and operations” may apply across grade levels, the

content at individual grade levels—what students know and can do—consists of skills and knowledge that can be expected of students at widely varying grade levels across state standards. Thus, for mathematics, if analysts found no on-grade NM standards aligned to a Common Core standard at a particular grade level, they then looked for off-grade alignments to NM standards at all grade levels that include related content.

Because the protocol for this study focuses on on-grade versus off-grade alignment, the list of NM standards unmatched to the CCSS consists of both those NM standards with no match to any CCSS content at any grade level, and of “redundant” NM standards. A redundant NM standard is one that repeats the content of a standard at another grade level that is aligned to an *on-grade* Common Core standard, but is not aligned to CCSS content at any other grade level. For example, in mathematics, NM standards at both grades 1 and 2 address the concept of “equal” (1.A.2.2 and 2.A.2.2), whereas the CCSS address the concept of “equal” only at grade 1 (1.OA.7). Analysts thus matched NM standard 1.A.2.2 to CCSS 1.OA.7 for an on-grade alignment; since there is no CCSS standard at any other grade specifically addressing “equal,” NM standard 2.A.2.2 was not matched to any CCSS.

III. Summary of Results

This section summarizes the overall results of the analysis for English language arts and mathematics by CCSS grade span. Details of the analysis, including notes for all Partial and No Coverage ratings, are provided for each Common Core standard at each grade level in Appendix B (ELA) and Appendix C (mathematics).

A. English Language Arts

This section provides a summary of the results of the analysis of the CCSS for ELA and the NM language arts standards, with a focus on areas of most concern for transitioning from the NM standards to the CCSS—that is, key content addressed in the CCSS that is covered partially or not at all by NM standards, or that is introduced at an earlier grade level than in the NM standards. The summary begins with a general overview, followed by sections for grade spans K–4, 5–8, and 9–12.

Overall, a majority of the CCSS are covered (fully or partially) by the NM standards at all grade levels (see summary charts for each grade span in the grade span sections below). Two general observations can be made about the overall patterns of coverage of the CCSS by NM standards. One is that the percentage of full coverage varies considerably by grade level. The highest percentage of fully covered CCSS is found at the secondary level, in grades 9–10 and 11–12. The overall degree of coverage, partial and full, is also considerably higher for these grades. The second highest percentage of full coverage is found in the primary grades, K–2. The percentage of CCSS receiving full coverage by NM standards is consistently lower across grades 3–8. For example, at grade 6, only 18% of the CCSS are fully covered by NM standards. In contrast, 42% of the CCSS at grades 11–12 and 35% at grade 2 are fully covered by the NM standards.

i. Grades K–4 ELA

As shown in Table 1 (on p. 8), the K–4 NM standards fully or partially cover a majority of the related CCSS standards. One of the strongest areas of overlap in NM’s K–4 standards was with CCSS grade level standards for Reading Foundational Skills (RF.1–RF.4), particularly in grades 2–4. NM K–4 standards also fully or partially cover the majority of the CCSS Reading Standards for Literature, Writing, Speaking and Listening, and Language (vocabulary and conventions). CCSS Reading Standards for Informational Text were not as well covered in grades K–4. The individual CCSS standards listed below are generally not well covered by NM standards for K–4 (see Appendix B for details).

- RI.7 and 8 and RL.7, addressing the “Integration of Knowledge and Ideas” in Reading
- W.1, “Opinion Pieces”
- W.7 and W.8, addressing research skills

ii. Grades 5–8 ELA

As shown in Table 2 (on p. 9), NM’s standards for grades 5–8 fully or partially cover a majority of the related CCSS standards. However, NM standards for this grade span have a higher rate of partial rather than full coverage of the CCSS, and for some strands a higher rate of no coverage, than at the other grade spans. Results for particular strands are summarized below (see Appendix B for details).

- For grades 5–8, the strongest areas of overlap with NM’s standards are with CCSS grade level standards for Writing and for Speaking and Listening. Although the majority of coverage ratings are partial, the NM standards cover strong majorities of the CCSS in both strands. In general, there is considerable overlap between NM’s 5–8 standards and CCSS standards addressing skills in oral presentation, discussion, expository and persuasive writing, and research skills.
- The overall coverage at grades 5–8 is considerably lower for CCSS in the Reading and Language strands. In both strands, most of the CCSS are only partially covered by the NM standards. In grades 5 and 7, no CCSS Reading Standards for Literature are fully covered. The grade 5 CCSS Reading Standards for Informational Text also have no full coverage ratings.

iii. Grades 9–12 ELA

As shown in Table 3 (on p. 10), grade 9–12 CCSS are more strongly covered by NM standards in most strands compared to other grade spans. The NM standards fully or partially cover the great majority of the related 9–12 CCSS. Results for particular strands are summarized below (see Appendix B for details).

- Nearly all the 9–12 CCSS in Writing and Speaking and Listening are covered by NM standards, with much higher rates of full coverage ratings than at other grades. More specifically, the NM standards have substantial overlap with CCSS addressing persuasive writing, expository writing, research skills, oral presentations, and the analysis of argument in written and oral form. NM 9–12 standards also cover the CCSS in the Language strand to a much greater extent than at other grade spans, with the majority of the CCSS fully covered by NM standards.
- In the Reading strand, the NM standards cover a majority of the 9–12 CCSS standards for both Literature and Informational Text, though most of the matched NM standards provided only partial coverage. In general, the CCSS Reading standards for both Literature and Informational Text tend to be more complex (multifaceted) and specific, and in some cases more rigorous, than the related NM standards. In addition, many of the NM reading standards for both Literature and Informational Text tend to refer to characteristics or elements across multiple texts (the analysis of “tragic elements in literary works”), while the CCSS typically refer to the detailed analysis of a single text (“how complex characters develop over the course of a text”).

Figure 1. Coverage of CCSS for English Language Arts by NM Language Arts Standards by Grade

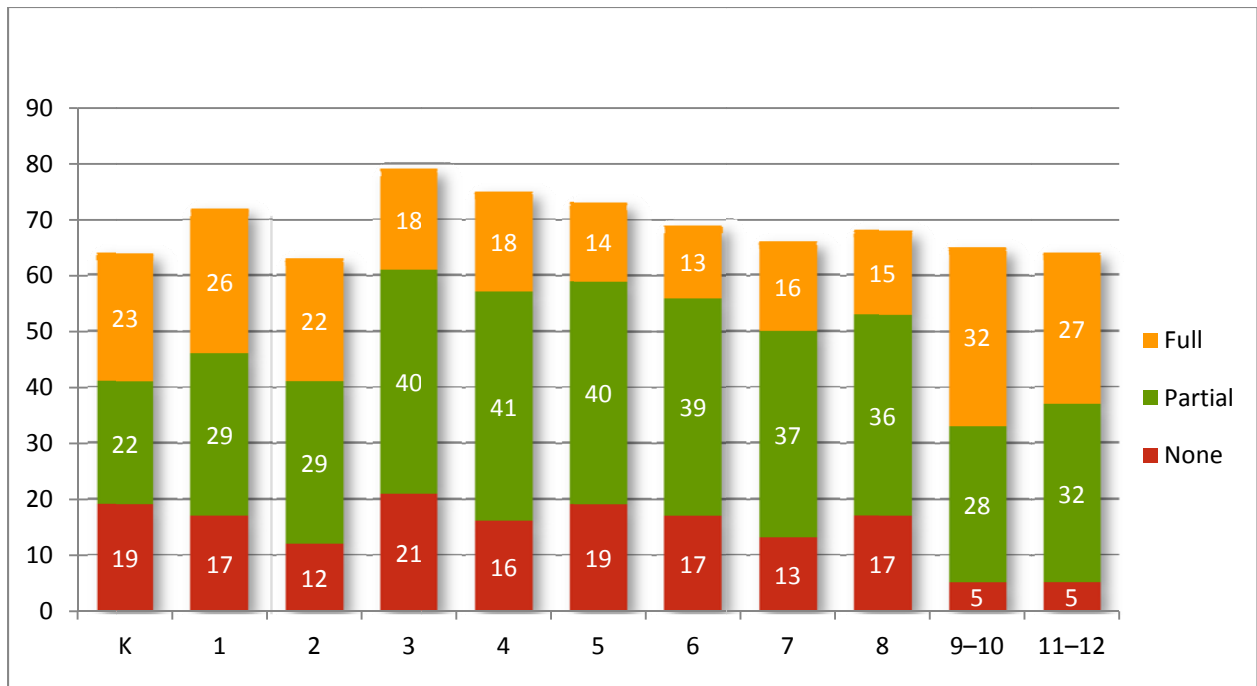


Table 1. CCSS for English Language Arts Coverage Grades K–4

Grade	Coverage	Grade level	No. CCSS covered	% CCSS covered	
K	Full	On-grade	16	25%	
		Off-grade	7	11%	
	Partial	On-grade	14	22%	
		Off-grade	8	13%	
	Total CCSS covered			45	70%
	Total not covered			19	30%
	Total grade K CCSS rated			64	100%
1	Full	On-grade	16	22%	
		Off-grade	10	14%	
	Partial	On-grade	12	17%	
		Off-grade	17	24%	
	Total CCSS covered			55	76%
	Total not covered			17	24%
	Total grade 1 CCSS rated			72	100%
2	Full	On-grade	16	25%	
		Off-grade	6	10%	
	Partial	On-grade	17	27%	
		Off-grade	12	19%	
	Total CCSS covered			51	81%
	Total not covered			12	19%
	Total grade 2 CCSS rated			63	100%
3	Full	On-grade	10	13%	
		Off-grade	8	10%	
	Partial	On-grade	32	41%	
		Off-grade	8	10%	
	Total CCSS covered			58	73%
	Total not covered			21	27%
	Total grade 3 CCSS rated			79	100%
4	Full	On-grade	9	12%	
		Off-grade	9	12%	
	Partial	On-grade	22	29%	
		Off-grade*	19	25%	
	Total CCSS covered			59	79%
	Total not covered			16	21%
	Total grade 4 CCSS rated			75	100%
Total grade K–4 CCSS covered			268	76%	
Total not covered			85	24%	

*Two CCSS standards at this grade level were matched to both on- and off-grade NM standards, and the matches given a coverage rating of Partial. These additional off-grade matches are not included in this total.

Table 2. CCSS for English Language Arts Coverage Grades 5–8

Grade	Coverage	Grade level	No. CCSS covered	% CCSS covered	
5	Full	On-grade	7	10%	
		Off-grade	7	10%	
	Partial	On-grade	32	44%	
		Off-grade*	8	11%	
	Total CCSS covered			54	74%
	Total not covered			19	26%
	Total grade 5 CCSS rated			73	100%
6	Full	On-grade	3	4%	
		Off-grade	10	14%	
	Partial	On-grade	22	32%	
		Off-grade	17	25%	
	Total CCSS covered			52	75%
	Total not covered			17	25%
	Total grade 6 CCSS rated			69	100%
7	Full	On-grade	3	5%	
		Off-grade	13	20%	
	Partial	On-grade	23	35%	
		Off-grade	14	21%	
	Total CCSS covered			53	80%
	Total not covered			13	20%
	Total grade 7 CCSS rated			66	100%
8	Full	On-grade	5	7%	
		Off-grade	10	15%	
	Partial	On-grade	26	38%	
		Off-grade	10	15%	
	Total CCSS covered			51	75%
	Total not covered			17	25%
	Total grade 8 CCSS rated			68	100%
Total grade 5–8 CCSS covered			210	76%	
Total not covered			66	24%	

*One CCSS standard at this grade level was matched to both on- and off-grade NM standards with a coverage rating of Partial. This additional off-grade match is not included in this total.

Table 3. CCSS for English Language Arts Coverage Grades 9–12

Grade	Coverage	Grade level	No. CCSS covered	% CCSS covered	
9–10	Full	On-grade	27	42%	
		Off-grade	5	8%	
	Partial	On-grade	25	38%	
		Off-grade	3	5%	
	Total CCSS covered			60	92%
	Total not covered			5	8%
	Total grade 9–10 CCSS rated			65	100%
11–12	Full	On-grade	23	36%	
		Off-grade	4	6%	
	Partial	On-grade	26	41%	
		Off-grade	6	9%	
	Total CCSS covered			59	92%
	Total not covered			5	8%
	Total grade 11–12 CCSS rated			64	100%
Total grade 9–12 CCSS covered			119	92%	
Total not covered			10	8%	

iv. Cross-grade Patterns in ELA

Because the CCSS for ELA are organized by anchor standards that are the same across grades K–12, some general patterns of differences among the two sets of standards across grades became evident during the analysis. These patterns of differences are based on organization, level of detail or specificity, and content emphasis, and are summarized below.

Organization. Because the CCSS grade-level standards are based on the Common Core Anchor Standards, which remain the same across grades, the CCSS provide considerable continuity of content across grades. In comparison, the content of the NM standards tends to vary to a greater extent by grade level. In some cases, CCSS with no coverage by NM standards address content that recurs (with variations) across all grades in the CCSS but is addressed in fewer grades in the NM standards. For example, the CCSS include some form of persuasive writing at every grade level, starting with “opinion pieces” in grade 1 (W.1.1). In NM, the first standard addressing persuasive writing appears at grade 5 (II-C.5.1a).

Specificity. In general, the CCSS tend to be more specific and detailed than related NM standards, and to include additional elements not specifically addressed by the NM standards. Differences in specificity often accounted for partial coverage of the CCSS by the NM standards. For example, Common Core standard RL.8.2, “Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text,” is a multi-faceted and rigorous standard, the first part of which focuses on a text-based analysis of theme in a single literary

work. A related NM standard, I-D.8.2, “Analyze and evaluate themes and central ideas in literary and other texts in relation to personal and social issues,” is rigorous in its own right (in requiring connections beyond the text) but much broader than the CCSS, and without the specific focus on textual analysis. Another related NM standard at grade 7, III-B.7.2, requires students to “identify recurring themes in literary works.”

Content Emphasis. Some CCSS content receives limited to no coverage by the NM standards. The following examples represent noteworthy trends, not an exhaustive list, of CCSS standards that have little to no NM coverage at many grade levels:

- grade level standards based on Reading Anchor Standard 3 (RI.3 and RL.3), addressing the relationships between “individuals, events, and ideas” in a text and how those relationships develop over the course of the text;
- grade level standards based on Reading Anchor Standard 5 (RI.5 and RL.5) addressing the analysis of the structural organization of both literary and informational texts (in general, NM standards had more coverage of RL.5 than of RI.5);
- grade level standards based on Reading Anchor Standard 7 (RI.7 and RL.7) addressing analysis of the interaction between texts and visual images (such as illustrations, graphics) or between texts and other visual media;
- grade level standards based on Reading Anchor Standard 9 (RI.9 and RL.9), addressing the analysis of differences or similarities between texts or authors (a number of NM standards also address the skill of making comparisons across texts, but due to differences in focus, there were only a few matches);
- grade level standards based on Writing Anchor Standard 10 (W.10), “Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences”;
- grade level standards based on Speaking and Listening Anchor Standards 1, particularly standards addressing “collaborative discussions,” and 5, particularly standards requiring the use of “digital media and visual displays” in oral presentations; and
- grade level standards based on Language Anchor Standard 3, particularly those standards requiring students to “make effective choices for meaning or style” and Language Anchor Standard 5, particularly standards requiring students to distinguish between “shades of meaning” in related words or between literal and figurative meanings.

B. Mathematics

This section provides a summary of the results of the analysis of the CCSS for Mathematics and the NM mathematics standards, with a focus on areas of most concern for transitioning from the NM standards to the CCSS—that is, key content addressed in the CCSS that is covered partially or not at all by NM standards, or that is introduced at an earlier grade level than in the NM standards. The summary begins with a general overview, followed by sections for grade spans K–4, 5–8, and 9–12.

Overall, a majority of the CCSS are covered (fully or partially) by the NM standards at all grade levels (see summary charts for each grade span below). Two general observations can be made about the overall patterns of coverage of the CCSS by NM standards. One is that the percentage of full coverage varies considerably by grade level. The highest percentage of fully covered CCSS is found in grades K–8, ranging from 31% to 56% of standards. The overall degree of coverage, partial and full, is also considerably higher for these grades than for high school, where full coverage ranges from 11% to 28%.

v. Grades K–4 Mathematics

As shown in Table 4 (on p. 15), the K–4 NM standards fully or partially cover a large majority (93%) of the related CCSS standards. However, a large number of the CCSS, in some grades up to half, are covered only partially (see Appendix C for notes on areas of partial coverage). In addition, a number of CCSS are addressed by off-grade NM standards that introduce content at a later grade, as detailed in the list below.

- Properties of operations as strategies are introduced in the CCSS in grade 1, but not until grade 3 in the NM standards.
- Understanding the meaning of the equal sign and using equations to represent a problem is addressed in grade 1 in the CCSS, but not until grade 3 in the NM standards.
- Specific place value and the base-ten number system appear early in the NM standards and continue into grades 3 and 4, but by the end of grade 3 in the CCSS, students are required to use knowledge of place value in a different way, and at a deeper level. By the end of grade 3 in the CCSS, students are expected to use their knowledge of the base-ten system to round numbers, fluently add and subtract within 1,000, and to multiply one-digit whole numbers by multiples of ten in the range of 10–90.
- The CCSS focus on numbers to 1,000 in grades 1 and 2, while the NM standards focus on numbers to 100.

vi. Grades 5–8 Mathematics

As shown in Table 5 (on p. 16), NM mathematics standards in grades 5–8 do not provide as great an extent of coverage of the CCSS as in grades K–4. Eighty-six percent of CCSS at grades 5–8 are fully or

partially covered by New Mexico state standards, leaving 14% not covered. As in grades K–4, a number of CCSS are addressed by off-grade NM standards that introduce content at a later grade, as detailed in the list below.

- The CCSS address solving real world problems involving multiplication of fractions and mixed numbers at grade 5, while NM standards address this content at grade 6.
- Finding the volume of a rectangular prism is addressed in the CCSS at grade 5, but not until grades 7 and 8 in the NM standards.
- In the CCSS, grade 6 content includes applying the properties of operations to generate equivalent expressions, and writing, reading, and evaluating expressions in which letters stand for numbers; these skills and concepts are not addressed until grades 7 and 8 in the NM standards.
- The CCSS address understanding that a function is a rule that assigns one output to each input at grade 8, while NM standards do not address this content until grades 9–12.

vii. Grades 9–12 Mathematics

As shown in Table 6 (on p. 17), 62% of the CCSS high school standards are fully or partially covered by NM standards, leaving 38% not covered. The majority of the standards with no coverage are those addressing advanced content (defined in the CCSS for Mathematics introduction, p. 57, as “additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics”) and marked by a (+) in the CCSS. As the high school CCSS are organized by conceptual categories and not by grade level, very few of the high school CCSS are covered by off-grade NM standards. Below is a summary of key content addressed in the CCSS but not addressed by the NM standards.

- In the Number and Quantity conceptual category, 11 of the 17 CCSS not covered by NM standards address the Vector/Matrix domain. NM standards do not address Vector/Matrix in either the core standards or the “Topics for Further Study.”
- In the Geometry conceptual category, of the 14 CCSS standards not covered by NM standards, two are (+) standards. The remaining 12 address content covered to a greater extent than in the NM standards:
 - The CCSS address transformations (e.g. the “Experiment with transformations in the plane” cluster) in deeper and more complex ways than do the NM standards.
 - The CCSS address circles in more depth than do the NM standards.
 - While the NM standards address formulas and their uses, the CCSS require students to give informal arguments for understanding formulas.

- The NM standards do not address the high level standards in the CCSS cluster “Apply geometric concepts in modeling situations.”
- In the Statistics and Probability conceptual category, 12 of the 14 CCSS not covered by NM standards are related specifically to probability. The CCSS have several standards which focus on a definitional description and understanding of probability. While the NM standards contain content related to probability similar to that in the CCSS (for example, independent events and conditional probability), they do not address the probability concepts in the same way as the CCSS.

Figure 2. Coverage of CCSS for Mathematics by NM Mathematics Standards by Grade

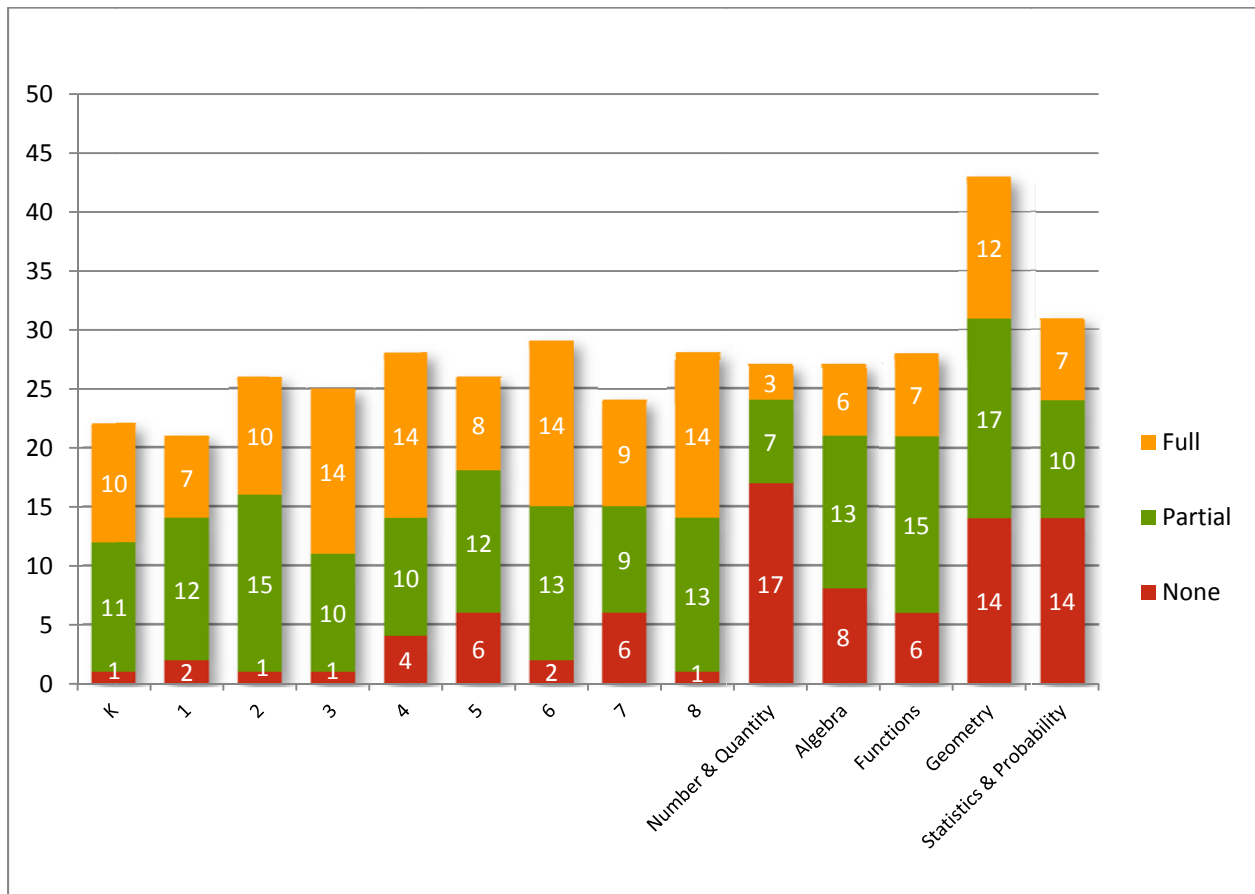


Table 4. CCSS for Mathematics Coverage Grades K–4

Grade	Coverage	Grade level	No. CCSS covered	% CCSS covered	
K	Full	On-grade	7	32%	
		Off-grade	3	14%	
	Partial	On-grade	8	36%	
		Off-grade	3	14%	
	Total CCSS covered			21	95%
	Total not covered			1	5%
Total grade K CCSS rated			22	100%	
1	Full	On-grade	5	24%	
		Off-grade	2	10%	
	Partial	On-grade	12	52%	
		Off-grade	0	5%	
	Total CCSS covered			19	90%
	Total not covered			2	10%
Total grade 1 CCSS rated			21	100%	
2	Full	On-grade	10	38%	
		Off-grade	0	0%	
	Partial	On-grade	14	54%	
		Off-grade	1	4%	
	Total CCSS covered			25	96%
	Total not covered			1	4%
Total grade 2 CCSS rated			26	100%	
3	Full	On-grade	13	52%	
		Off-grade	1	4%	
	Partial	On-grade	10	40%	
		Off-grade	0	0%	
	Total CCSS covered			24	96%
	Total not covered			1	4%
Total grade 3 CCSS rated			25	100%	
4	Full	On-grade	11	39%	
		Off-grade	3	11%	
	Partial	On-grade	8	29%	
		Off-grade	2	7%	
	Total CCSS covered			24	86%
	Total not covered			4	14%
Total grade 4 CCSS rated			28	100%	
Total grades K–4 CCSS covered			113	93%	
Total not covered			9	7%	

Table 5. CCSS for Mathematics Coverage Grades 5–8

Grade	Coverage	Grade level	No. CCSS covered	% CCSS covered	
5	Full	On-grade	7	27%	
		Off-grade	1	4%	
	Partial	On-grade	7	27%	
		Off-grade	5	19%	
	Total CCSS covered			20	77%
	Total not covered			6	23%
	Total grade 5 CCSS rated			26	100%
6	Full	On-grade	9	31%	
		Off-grade	5	17%	
	Partial	On-grade	8	28%	
		Off-grade	5	17%	
	Total CCSS covered			27	93%
	Total not covered			2	7%
	Total grade 6 CCSS rated			29	100%
7	Full	On-grade	6	25%	
		Off-grade	3	13%	
	Partial	On-grade	7	29%	
		Off-grade	2	8%	
	Total CCSS covered			18	75%
	Total not covered			6	25%
	Total grade 7 CCSS rated			24	100%
8	Full	On-grade	13	46%	
		Off-grade	1	4%	
	Partial	On-grade	11	39%	
		Off-grade	2	7%	
	Total CCSS covered			27	96%
	Total not covered			1	4%
	Total grade 8 CCSS rated			28	100%
Total grades 5–8 CCSS covered			92	86%	
Total not covered			15	14%	

Table 6. CCSS for Mathematics Coverage Grades 9–12

Grade	Coverage	Grade level	No. CCSS covered	% CCSS covered	
Number and Quantity	Full	On-grade	3	11%	
		Off-grade	0	0%	
	Partial	On-grade	6	22%	
		Off-grade	1	4%	
	Total CCSS covered			10	37%
	Total not covered			17	63%
Total Number and Quantity Rated			27	100%	
Algebra	Full	On-grade	6	22%	
		Off-grade	0	0%	
	Partial	On-grade	13	48%	
		Off-grade	0	0%	
	Total CCSS covered			19	70%
	Total not covered			8	30%
Total Algebra Rated			27	100%	
Functions	Full	On-grade	7	25%	
		Off-grade	0	0%	
	Partial	On-grade	15	54%	
		Off-grade	0	0%	
	Total CCSS covered			22	79%
	Total not covered			6	21%
Total Functions Rated			28	100%	
Geometry	Full	On-grade	12	28%	
		Off-grade	0	0%	
	Partial	On-grade	16	37%	
		Off-grade	1	2%	
	Total CCSS covered			29	67%
	Total not covered			14	33%
Total Geometry Rated			43	100%	
Statistics & Probability	Full	On-grade	7	23%	
		Off-grade	0	0%	
	Partial	On-grade	10	32%	
		Off-grade	0	0%	
	Total CCSS covered			17	55%
	Total not covered			14	45%
Total Statistics & Probability Rated			31	100%	
Total grades 9–12 CCSS covered			97	62%	
Total not covered			59	38%	

IV. Implications and Recommendations

WestEd recommends that NMPED review the results of this study to guide planning for transitioning curriculum, teaching and related professional development activities, and assessment to the CCSS. WestEd also recommends that when considering the substantive, logistical, technical, and political aspects of effectively transitioning to the CCSS, NMPED engage in cross-division/cross-disciplinary planning discussions, involving curriculum specialists, teachers from throughout the state, and other key stakeholders as appropriate.

In particular, review of the alignment matrices for each content area in Appendices B and C can include consideration of:

- CCSS not covered by the NM standards;
- CCSS covered only partially by the NM standards;
- CCSS covered by off-grade NM standards; and
- analysts' notes detailing explanations of degree of coverage and differences in breadth or specificity of content among the standards.

Similarly, review of the NM standards not matched to any CCSS for each content area in Appendices D and E can include consideration of:

- NM standards that cover CCSS content redundantly (at earlier or later grade levels than in the CCSS);
- NM standards that address content related to that in the CCSS, but at a broader or more specific level; and
- NM standards that address content not addressed at all in the CCSS.

As NMPED may wish to conduct further analyses of the alignment data, such as comparisons by ELA strand, mathematics concept, or grade level, WestEd is providing NMPED with a searchable Excel file of the ratings matrices.

Appendix A

General Decision Rules

1. If a NM standard or set of standards addresses the *essential content* of a CCSS standard, the coverage is considered Full, even if the specific wording of the standards does not match exactly or entirely. (For example, if a CCSS standard includes some elements in a parenthetical “e.g.” list not found in related NM standards, but the essential content in both is parallel, the coverage is considered Full.)
2. A set of NM standards that taken together address the essential content of a CCSS standard constitutes Full coverage, even if one or more of the individual NM standards in the set taken alone would constitute Partial coverage.
3. If a NM standard and a Common Core standard contain identical terms or phrases, but do *not* address the same primary focus or essential content, the standards are not considered matching.

ELA Decision Rules⁴

1. Standards that explicitly address different genres or text types are not considered matching. For example, CCSS standards that address literary text are not matched to NM indicators that address informational text and vice versa. Standards applicable to multiple genres or text types can be considered matching.
2. Standards that explicitly address skills applied to different types of writing are not considered matching. For example, standards that specifically focus on writing arguments are not matched to standards that specifically address writing narratives.
3. NM standards for the revision of writing may be matched to CCSS writing standards in the “Text Types and Purposes” section, as long as the skills described in the NM standards match content in the CCSS.
4. NM standards that describe skills related to planning or pre-writing (such as taking notes, preparing an outline, etc.) are *not* matched to CCSS writing standards in the “Text Types and Purposes” section.

⁴ Analysts determined that no additional decision rules specific to mathematics were needed.