Characteristics of States' Alternate Assessments Based on Modified Academic Achievement Standards in 2008



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Characteristics of States' Alternate Assessments Based on Modified Academic Achievement Standards in 2008

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Executive Summary

In April 2007, Federal No Child Left Behind regulations were finalized that provided states with additional flexibility for assessing some students with disabilities. The regulations allowed states to offer another assessment option, alternate assessments based on modified academic achievement standards (AA-MAS). States are not required to have this assessment. According to the regulations, this option is for a small number of students with Individual Education Programs (IEPs) who even with appropriate grade level academic instruction are unlikely to reach grade-level proficiency within the year covered by an IEP.

The National Center on Educational Outcomes (NCEO) has been tracking and analyzing the characteristics of states' AA-MAS since 2007. This is the second annual update. The previous NCEO report on test design for AA-MAS (Lazarus, Thurlow, Christensen & Cormier, 2007) indicated that five states offered an assessment they considered to be an AA-MAS in 2007: Kansas, Louisiana, North Carolina, North Dakota, and Oklahoma. In addition, Maryland indicated it was in process of developing an AA-MAS. In 2008, there were three more states that had an assessment they considered to be an AA-MAS: California, Connecticut, and Texas. As of March 2009, none of the states had successfully completed the U.S. Department of Education's peer review process. As of the publication date, one state (Texas) had received approval.

States' AA-MAS's differed in a number of ways from their regular assessments. In 2008, the AA-MAS of all nine states used a multiple-choice format. Some states' assessments also included constructed response or writing prompts. And in 2008, two states included performance-based tasks. Design elements differentiating the AA-MAS from a state's regular assessment included fewer items on the test, removing a distractor, shorter passages, fewer passages, and simplified language. More than half of the states had fewer items per page on the AA-MAS than on the regular assessment. Analysis of states' regular assessment blueprints compared to those of AA-MAS showed some differences in the patterns of emphasis across grade levels.

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Overview

Federal No Child Left Behind (NCLB) regulations finalized in April 2007 provided states another assessment option to consider in meeting the goal of including all students in the federal accountability system. In addition to the previously-available assessment options for students with disabilities (e.g., taking the regular assessments with or without accommodations, or alternates based on grade level or alternate achievement standards), the regulation gave states the flexibility to offer an alternate assessment based on modified academic achievement standards (AA-MAS). States may count up to 2% of all students as proficient who met proficiency standards with an AA-MAS (U.S. Department of Education, 2007, April 9). States are not required to offer an AA-MAS.

According to the 2007 regulations, students participating in an AA-MAS must have an IEP; and even with appropriate grade level content instruction, the student must be unlikely to achieve proficiency in the year covered by an IEP. Further, the students participating in an AA-MAS may be from any disability category (U.S. Department of Education, 2007, April 9). As of the publication date, only one state (Texas) that had an assessment it considered to be an AA-MAS successfully completed the peer review process used by the U.S. Department of Education to determine whether the assessment satisfies federal requirements. The purpose of this report is to compare the characteristics of assessments states identified as AA-MAS in 2007 with those assessments identified in 2008.

In 2007, the National Center on Educational Outcomes (NCEO) tracked and analyzed states' participation guidelines for the AA-MAS and the characteristics of states' AA-MAS (Lazarus, Thurlow, Christensen, & Cormier, 2007). Because more information is now publicly available, NCEO is publishing two separate updates—this report on the characteristics on states' AA-MAS (including assessment design changes) and another synthesis report on participation guidelines (Lazarus, Rogers, Cormier, & Thurlow, 2008). This report builds on the work done in the NCEO report, *States' Alternate Assessments Based on Modified Achievement Standards (AA-MAS) in 2007* (Synthesis Report 67) (Lazarus et al.). The current report covers assessment design changes, as did the previous report, but with additional analyses including a blueprint comparison between regular assessments and AA-MAS.

Questions guiding the current study were:

- 1. In August 2008, which states had an assessment that they considered to be AA-MAS?
- 2. What were the characteristics of these assessments and how had they changed since 2007?

3. What differences, if any, were there between the assessment blueprints of states' regular and AA-MAS assessments regarding number of items and the percentage that specific components (e.g., strands) were covered in subject areas by grade?

Process Used to Find Information about States' AA-MAS

This report summarizes publicly available information about the characteristics of the AA-MAS for states that either had an assessment they considered to be this type of alternate assessment in place in August 2008, or had information about an AA-MAS in development on the state Web site in August 2008.

Data were gathered from state department of education Web sites by locating all available information on AA-MAS and regular assessments, including general information, frameworks, test specifications, and accommodation policies. Data were gathered on assessment design changes (e.g., AA-MAS question types and characteristic changes) that had been included in the previous year's report (Lazarus et al., 2007) to compare changes between 2007 and 2008. This report includes information on accommodations that have been incorporated into the design of states' AA-MAS. For this report we define *embedded accommodations* as AA-MAS features that would be considered an accommodation on a state's regular assessment. In other words, if a tool or procedure that is usually considered an accommodation is provided on the AA-MAS (and is available to students participating in the assessment without any IEP documentation), it is considered an embedded accommodation. We looked at accommodations that were allowed on each state's regular assessment, as well as regular test features that are sometimes considered accommodations—and then looked to see whether any of these accommodations had been integrated into the design of the state's AA-MAS. Examples of embedded accommodations are listed below:

- If a state's AA-MAS used 16-point font size and its regular assessment had 12-point font, the large print accommodation would be considered to be an embedded accommodation.
- If the calculator was allowed on all sections of a state's AA-MAS but allowed only on certain portions of the regular test, the calculator accommodation would be considered an embedded accommodation.
- If a state's AA-MAS design included the reading of test questions and items to all participating students (and the regular assessment does not include this feature), the read aloud accommodation would be considered an embedded accommodation.

Note that this report only includes information on embedded accommodations that have been incorporated into the design of the AA-MAS. Detailed information on state's accommodations policies for the AA-MAS will be included in a forthcoming report.

A comparison was also made between blueprints for states' AA-MAS and the general state assessments found on state Web sites. The areas of comparison included content area changes by grade ranges, elementary to high school. For this analysis, we used samples taken for elementary (4th), middle (8th) and high school (10th) grades for all subjects reported. We limited our analysis to multiple choice items because only two states had constructed response items (other than for writing). If information for any of these grades was not available, the grade below it was used. If there were no assessments in the grade below, information was gathered for the grade above. A complete list of state documents used to compile information for this report is in Appendix A.

The AA-MAS information collected for each state was placed into a state profile in the form of summary tables. The profiles were then e-mailed to each state in September 2008. States were asked to verify the information; if the profile contained inaccurate information, states were permitted to revise their profiles, providing we could confirm their corrections with posted state information. Five states responded to the request; they either confirmed the accuracy of the information, suggested one document over another, or filled in other information. The verified information was then compiled and summarized in this report.

Results -

In July 2007, there were five states that offered an assessment that the state considered to be an AA-MAS (Lazarus et al., 2007). These were Kansas, Louisiana, North Carolina, North Dakota, and Oklahoma. At that time, Maryland had publicly available information indicating that it was developing an AA-MAS so it was also included in the 2007 report (Lazarus et al., 2007). In 2008, there were three additional states either implementing or in the process of developing an AA-MAS. The states were California, Connecticut, and Texas. Table 1 lists all nine of the states that either were developing or had what they considered to be an AA-MAS in 2008, and provides brief details about each assessment (e.g., content areas and grades assessed).

Figure 1 shows the number of states employing different types of question and assessment approaches between 2007 and 2008. The total number of states for each category graphed takes into account all subject areas. For example, if a state used multiple choice and constructed response questions in one subject area, the state would be counted in both categories. But a category such as multiple choice would not be counted twice if it was used for both reading and mathematics. Four states used a combination of question types within a content area assessment.

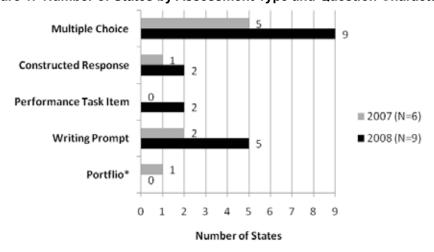
There were also some observed differences in assessment design characteristics from the preceding year. North Dakota had a performance-based portfolio assessment in 2007 (Lazarus et al., 2007). In 2008, this assessment had evolved into a teacher mediated computer delivered performance-based assessment that used a multiple choice format. Specific information on assessment types and question characteristics for each subject area are provided in Table B1 in Appendix B.

Table 1. AA-MAS Name, Content Areas, and Grade Described by State

State	Assessment Name	Content Areas/Grades
California	California Modified Assessment (CMA)	ELA (3-8); Math (3-7); Science (5,8)
Connecticut ¹	CMT/CAPT Modified Achievement Standards (CAPT-MAS)	ELA and Math (3-8,10-11)
Kansas	Kansas Assessment of Multiple Measures (KAMM)	Reading and Math (3-8; once in HS), Writing (5,8, once in HS); History/Gov (6,8, once in HS); Science (4,7, once in HS)
Louisiana	LEAP Alternate Assessment, Level 2 (LAA2)	English and Math (Grades 4-10); Science and Social Studies (4, 8, 11)
Maryland ²	Modified Maryland School Assessment (Mod-MSA) and Modified High School Assessment (Mod-HSA)	Reading/ELA and Math (3-8, HS) (Information in report and appendices is for Mod-HSA only.)
North Carolina	NCEXTEND2	Reading and Math (3-8); Science (4,8,11)
North Dakota	North Dakota Alternate Assessment Aligned to North Dakota Content Standards for Students with Persistent Cognitive Disabilities (NDAA2)	Reading and Math (3-8); Science (4,8,11)
Oklahoma	Oklahoma Modified Alternate Assessment Program (OMAAP)	ELA/Reading and Math (3-8, HS); Science (5,8)
Texas	Texas Assessment of Knowledge and Skills, Modified (TAKS-M)	English and Math (3-11); Science (5,8,10-11); Writing (4,7,10); Social Studies (8,10-11)

¹Under development, Connecticut plans to implement in 2008-09.

Figure 1. Number of States by Assessment Type and Question Characteristics Across Study Years



^{*}North Dakota used a portfolio assessment for its AA-MAS at the time of the 2007 report. Over time it has evolved into a teacher-mediated multiple choice and performance task assessment.

²Under development. Maryland plans to implement its AA-MAS in 2008-09 at the earliest.

Assessment Design Changes

Figure 2 shows the number of states with specified design changes across the two years. Most states noted using fewer items (n=8), followed by removing a distractor (n=6), shorter passages (n=5), and simplified language (n=5). Segmentation of passages was noted by one state in 2007 and by three states in 2008. See Tables B2 and B3 in Appendix B for more detailed information about design changes, including other changes made by only one state that are not included in the figure.

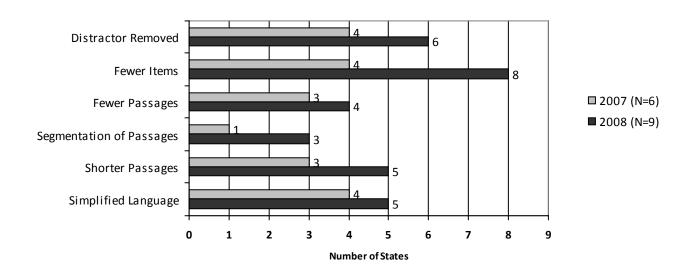


Figure 2. Selected Design Changes in States' AA-MAS Across Study Years

Embedded Accommodations

States often embedded accommodations into their AA-MAS assessments features that typically appear as accommodations in states' policies. In Figure 3, five states were using fewer items per page and four used larger font sizes. One state embedded the calculator accommodation. See Tables B4 and B5 for additional information about embedded accommodations and for more detailed specifications.

Other accommodations found in state policies were incorporated into the AA-MAS of a single state only for this year's study (see Table B-3 of Appendix B). Accommodations incorporated into the AA-MAS design by only one state included having a scribe for all students (North Dakota), reading aloud questions and answers for all students (Texas), and incorporating manipulatives into the assessment (North Dakota).

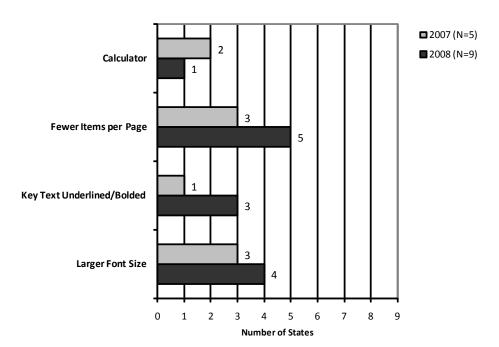


Figure 3. Accommodations Incorporated into AA-MAS Across Study Years¹

One state made an interesting change between our 2007 and 2008 analyses. The official Kansas policy regarding calculators did not change—for both years there were the same allowable accommodations for the regular test and the KAMM (the AA-MAS in Kansas)—and calculators were not allowed on the non-calculator portion of a test. However, the Kansas documents used for the analysis in 2007 went on the say:

Calculator use on non-calculator portions of the assessment is not allowed for any student. However, at this time there are no non-calculator portions on the KAMM assessment. Therefore, because of the current KAMM test design, calculators and calculation devices such as math tables are allowed on the entire KAMM.

But by 2008, Kansas was in the process of changing their KAMM, and 2008 Kansas documents indicated that:

KAMM Math Assessment will be reorganized this year based on the April 2007 release of the final NCLB 2% Regulations. The revised KAMM Math assessment will mirror the organization of the current Kansas General Math Assessment in the following way.

¹ Two of the nine states tracked in 2009 (e.g., Connecticut and Maryland) were still in the process of developing their AA-MAS. Therefore, there was minimal information available regarding embedded accommodations for those two states.

- The KAMM Math Assessment will be organized into three sections.
- The use of calculators will be allowed in two sections.
- The third section will not allow calculator use.
- In the non-calculator portion, there are numerous items, approximately 50% (depending on the grade level), for which a calculator is not necessary (e.g., recognizing shapes, charts and graphs, time, transformations, etc.).

Therefore, in 2007 the results of our analysis showed that Kansas incorporated the calculator accommodation into their AA-MAS test design (since it was allowed on all sections of the AA-MAS), but that in 2008 the state did not incorporate the accommodation since it was allowed on two out of three sections of both assessments.

Assessment Blueprints Comparison

Information was also gathered from state blueprints for regular assessments and AA-MAS to compare the number of test items and the percentage of coverage for components of subject area assessments. These data are presented in full—for representative elementary, middle school, and high school grades—in Appendix C. Appendix C also includes more specific assessment information such as when a state has indicated that certain items for an assessment are drawn from multiple grade levels. For example, California in its elementary science assessment for 5th grade uses a certain number of items from 4th and 5th grade content in both its regular assessment and AA-MAS.

Table 3 displays the differences in the number of total multiple choice items on states' AA-MAS compared to the regular assessment. This table is based on detailed information in Appendix C (Tables C1-C3 provide information on elementary reading, math, and science, respectively; Tables C4-C6 are middle school reading, math, and science; Tables C7-C9 are high school reading, math, and science. Table C10 provides information on the number of items for social studies). Differences in numbers of items do not address content or difficulty of items, nor do they address the rich information found in performance level descriptors. A separate report that provides information on performance level descriptors used by states with an AA-MAS is forthcoming.

Table 3. Total Numbers of Multiple Choice Items¹ on AA-MAS and Regular Assessment, and Percentage of Regular Items Represented on AA-MAS

State	Elementary				
Reading/ELA ²	AA- MAS	Reg	% of Reg		
California	27	42	64%		
Kansas	36	74 ³	49%		
Louisiana	21	33	64%		
North Carolina	40	58	69%		
Oklahoma	404	50	80%		
Texas	32	40	80%		
Math					
California	48	65	74%		
Kansas	40	72 ³	56%		
Louisiana	42	60	70%		
North Carolina	40	82 ³	49%		
Oklahoma	404	45	89%		
Texas	34	42	81%		
Science					
California	48	60	80%		
Louisiana	35	40	85%		
North Carolina	60	80 ³	75%		
Oklahoma	414	45	91%		
Texas	32	40	80%		
Social Studies (HS)					
Kansas					
Louisiana					
Texas					
Writing					
California	21	33	64%		
Texas	24	28	86%		

Middle School								
AA- MAS	Reg	% of Reg						
30	42	71%						
48	84 ³	57%						
21	33	64%						
40	53	75%						
	50							
38	48	79%						
54	65	83%						
40	884	45%						
42	60	70%						
40	80 ³	50%						
40³	45	89%						
40	50	80%						
54	60	90%						
60	80³	75%						
404	45	88%						
40	50	80%						
49	60	82%						
38	48	79%						
24	33	73%						
32	40	80%						
J2	+0	00 /0						

High School								
AA- MAS	Reg	% of Reg						
48	64	75%						
21	33	64%						
40	56	71%						
324	48 ⁴	67%						
22	28	79%						
40	104	38%						
42	60	70%						
40	80 ⁴	50%						
40	55	73%						
45	56	80%						
35	40	88%						
40	804	50%						
464	60	76%						
44	55	80%						
52	60	87%						
32	60	53%						
44	55	80%						
14	20	70%						

¹Multipe choice items only. Does not include constructed responses items or essays.

Note: The matrix cells are shaded if the number of items on the AA-MAS is less than 60% of the items on the regular assessment.

²This table does not include any writing multiple choice items in Reading/ELA. See separate listing for writing.

³ Documents noted that the regular assessment included field test items. Field test items could not be disaggregated from other test items for the regular assessment.

⁴Median number of questions

Table 3 presents a detailed comparison of the number of multiple choice items on states' AA-MAS and the regular assessment for states that have publicly available information. The greatest difference in number of items between the AA-MAS and regular assessment are shaded in Table 3 (i.e., if a state's AA-MAS has less than 60% of the number of items on its regular assessment). Shading indicates greater difference in coverage between the two assessments. States with the largest number of multiple choice items on the regular assessment tended to have the largest difference in percentage of total items between the AA-MAS and the regular assessment. In some cases, however, we observed a comparable percentage difference even with a relatively modest number of items on the regular assessment. An example of a state that had a relatively large number of multiple choice items on its regular assessments is Kansas. The 4th grade level KAMM reading assessment had 58 items. This compared to 36 questions on its 4th grade AA-MAS for reading. As shown in Appendix Table C1, an additional 16 multiple choice questions are used for the 4th grade AA-MAS in reading, but some of these are field test items for future use. Thus, the AA-MAS had 62% as many items as the regular assessment, assuming the regular assessment items were all operational. For most content areas and at most grade levels Oklahoma and Texas had the smallest percentage difference in the total number of AA-MAS items compared to the regular assessment. See Tables C1–C10 in Appendix C for detailed information about the number of items.

Example of State with Differences Across Component Areas

Not all states with AA-MAS reported the number of items or percentage of components for various "strands" within a content area for its regular assessment and its AA-MAS. Among those that did, some differences were observed. An example of the type of differences between the regular assessment and the AA-MAS across strands in one state is provided here. It shows changes in the pattern of coverage within mathematical components across grades 4, 8, and 10.

As shown in Figure 4, at the elementary level there is a difference in the pattern of the percentage of items for strands on the AA-MAS compared to the regular assessment, with a 20% difference in number and number relations on the AA-MAS compared to the regular assessment. Geometry had the smallest percentage difference of 4%. For other strands the difference in percentage of items ranged from 2-11%. The state's AA-MAS appears to be designed to include a range of 15-20% of the total questions for each strand assessed, but this pattern does not match the emphasis for the regular assessment, which varies between 5% and 40% of the total questions across strands.

45 40 ■ AA-MAS (4th gr) 40 35 □ Regular (4th gr) 30 Percentage 25 20 20 16 16 16 15 15 15 10 10 10 5 5 **Number and** Algebra Measurement Geometry Jata analysis, discrete math elations, and relations probability, number Patterns, functions

Figure 4.State Example: Elementary Math Percentage of Total Number of Questions Devoted to Each Strand for AA-MAS and Regular Assessment

Note: This figure reports percentages rather than number of items. At the elementary level, the state's AA-MAS had 42 multiple choice items and 2 constructed response items. The state's regular assessment had 60 multiple choice items and 3 constructed response items.

Figure 5 presents the middle school percentages for the same state. The percentage of the state's assessment questions for each strand at the middle school level was similar to percentages for the AA-MAS at the elementary level—and also quite similar to the state's regular assessment at this level.

Figure 6 shows the comparison at the high school level. This comparison also shows little variation between the regular assessment and the AA-MAS, with a range of 1-10% of total questions across strands. The AA-MAS, again, has the same percentage for each strand as at the elementary and middle school levels. Most noticeable here is the difference between number and number relations with 10% more items in this area on the AA-MAS than on the regular assessment (i.e., 20% of the questions on the AA-MAS were "number sense" questions but only 10% of the questions on the regular assessment were devoted to this strand).

States' blueprints for the regular assessment and the AA-MAS for all content areas that were publicly available were compared for elementary, middle, and high school assessments. Summary information and examples are provided here, with details presented in Appendix C. We examined all content areas for which blueprints were available (e.g., reading, writing, math, science).

45 ■ AA-MAS (8th gr) 40 □ Regular (8th gr) 35 30 Percentage 25 20 20 20 20 20 ¹⁶ 15 16 15 15 15 10 10 5 0 Number and Algebra Geometry discrete math relations, and Measurement Data analysis, probability, relations functions

Figure 5. State Example: Middle School Math Percentage of Total Number of Questions Devoted to Each Strand for AA-MAS and Regular Assessment

Note: This figure reports percentages rather than number of items. At the middle school level, the state's AA-MAS had 42 multiple choice items and 2 constructed response items. This state's regular assessment had 60 multiple choice items and 4 constructed response items.

Patterns,

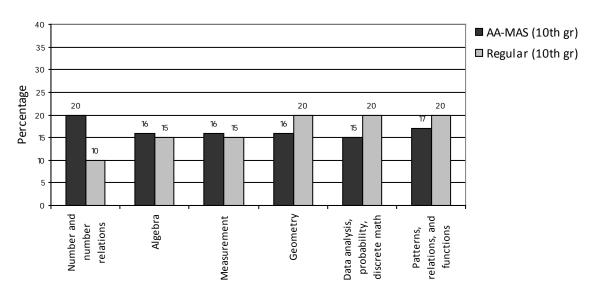


Figure 6. State Example: High School Math Percentage of Total Number of Questions Devoted to Each Strand for AA-MAS and Regular Assessment

Note: This figure reports percentages rather than number of items. At the high school level, the state's AA-MAS had 42 multiple choice items and 2 constructed response items. This state's regular assessment had 60 multiple choice items and 4 constructed response items.

Discussion

In 2007, six states either had or were in the process of developing an assessment they considered to be an AA-MAS. In 2008, there were nine states, and as of the publication date only one of the states has successfully completed the federal peer review process. Similar to 2007, multiple choice items were the predominant type of item on states' AA-MAS in 2008. Only two states used constructed response items, other than in writing where some states used prompts. Two states used performance tasks, one for the entirety of the AA-MAS (North Dakota) and one only for a science portion (Kansas). The three states added in this report showed similar designs in their AA-MAS to the six states that had this assessment option in 2007—for example, fewer items, simplified language, removal of a distractor, and shorter and fewer passages. States had other unique design features in both years, but many of these were difficult to categorize because they focused on the presentation of specific item content.

Several features that were considered accommodations for the state's regular assessment were embedded into the design of some states' AA-MAS. In 2008, the most frequently embedded accommodations were fewer items per page and larger font size. Both of these accommodations generally are categorized as presentation accommodations for regular assessments.

In this analysis of AA-MAS, we found for the first time that a state incorporated the use of scribes into the AA-MAS design. In contrast, other states considered a scribe a separate accommodation available for students on the AA-MAS or regular assessments if they individually required one.

The different characteristics observed in these AA-MAS seem to show that assessments across states are targeting different students. This observation agrees with Filbin (2008), who noted that states either appeared to be targeting students right below the regular assessment or right above the alternate assessment based on alternate achievement standards. In our analysis, some states appeared to have fewer changes to blueprints, suggesting these states' AA-MAS may be geared toward those students just below the regular assessment.

Comparing blueprints can yield useful information on how content coverage may differ across the assessments (Marion, 2007). The April 2007 Federal Register Rules and Regulations, in describing assessment design compared to regular content standards, said that an AA-MAS "reflects the same degree and pattern of emphasis as the content standards (balance)" (Section 200.6(a)(3)(i)), p. 2). But, in the Standards and Assessments Peer Review Guidance revised December 21, 2007, possible examples of acceptable evidence included a comparison of blueprints that "indicates that the general assessment and the assessment based on modified academic achievement standards were designed to address the same grade level content standards although the item specifications differ" (p. 26). The example showing the comparison of strands for the AA-MAS and regular assessment in one state reflects that state's interpretation of "balance."

In that example, the state maintained the same percentage of items across components at all grades, even though this sometimes was divergent from the percentage assessed in those grades on its regular assessments. It appears that states may have very different interpretations of what is meant by "same degree and pattern of emphasis."

In summary, it is important to continue to track the changes and decisions made by states as they develop their AA-MAS for students who qualify to participate. As states pursue the AA-MAS option, all aspects of the assessments should be analyzed and documented, toward the goal of ensuring quality grade level assessment and academic instruction for all students.

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Appendix A

State Documents Used in Analysis

State Documents and Presentations Used in the Analysis of States' AA-MAS

California	California Department of Education (n.d.). cma37math. Retrieved on August 7, 2008 from http://www.cde.ca.gov/ta/tg/sr/cmablueprints.asp .
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Appendix B —

AA-MAS Characteristics by State

Table B1. Assessment Type and Question Characteristic by Content Area for States' AA-MAS, 2008

	Read	ding		Writ	ing			Mati	า		Science Social					
State	Multiple Choice	Constructed Response	Performance Task	Multiple Choice	Constructed Response	Performance Task	Writing Prompt	Multiple Choice	Constructed Response	Performance Task	Multiple Choice	Constructed Response	Performance Task	Multiple Choice	Constructed Response	Performance Task
California	Х							Х			Х					
Connecticut ¹	Х	Х						Х	Х							
Kansas	Х						Х	Х			Х			Х		
Louisiana	Х	Х					Х	Х	Х		Х	Х	Х	Х	Х	
Maryland ²	Х			Х				Х			Х			Х		
North Carolina ³	Х						Х	Х			Х					
North Dakota⁴	Х		Х					Х			Х					
Oklahoma	Х						Х	Х			Х					
Texas	X			Х			Х	Х			Х			Х		

Shading indicates a state does not have a separate assessment for that content area.

¹Connecticut will implement in 2008-09.

²Maryland will implement in 2008-09 at the earliest.

³North Carolina also has occupational version that includes Occupational English I, Occupational Mathematics I, and Life Skills Science I and II.

⁴The North Dakota assessment is done on computer with the student and teacher together. The test requires the teacher to enter the answer choice given by the student. Each question is presented on a single screen. Most questions are multiple choice with several teacher initiated questions (involves printing a screen shot of item, providing student with supplies to answer the item, give verbal instructions to student. The instructions are provided with the item and the teacher rates the student's response from several options.)

Table B2. Comparison of AA-MAS and Regular Assessment: Design Changes, 2008

	Des	ign C	hang	е			
State	Distractor Removed	Fewer Items	Fewer Passages	Segmenting of Passage	Shorter Passages	Simplified Language	Other
California	Х	Х	Х		Х		X*
Connecticut ¹		Х		Х		Х	
Kansas	Х	Х	Х		X*	Х	X*
Louisiana		Х	Х		X*	Х	X*
Maryland ²	Х	Х					X*
North Carolina	Х	Х			Х	Х	X*
North Dakota							X*
Oklahoma	Х	Х		X*			X*
Texas	X*	Х	Х	X*	X*	X*	X*
Total	6	8	4	3	5	5	8

^{*}See Table B3 for specifications and for descriptions of "other" design changes.

NCEO NCEO

¹ Connecticut will implement in 2008-09.

² Maryland will implement in 2008-09 at the earliest.

Table B3. Specifications and Descriptions of Assessment Design Changes and of "Other" Assessment Design Changes, 2008

State	Specification Details and Other Design Changes					
	Other Design Changes					
California	All Content Areas: One column for most items.					
California	Math: Graphics for most items.					
	Science: Graphics for most items (stems and options).					
Connecticut ¹						
	Specification Details					
	Shorter Passages: Reduced sentence, paragraph and passage length.					
	Other Design Changes					
Kansas	Reading/ELA : Use text with familiar/common topics to KAMM students, creating clear literal, explicit connections within text, organizing and formatting text to facilitate students' processing of information related to overall purpose/theme (e.g., use of subheadings, bulleted lists, repetition of key words/information).					
	Math: Reduced complexity of items in assessment (e.g., limiting decimal places to hundredths vs. thousandths on regular) and modifying other item specifications (e.g., provide graphic when appropriate; focus on the mathematical relationships, not solving for a missing part).					
	Specification Details					
	Shorter Passages: Only at some grade levels (e.g., upper grades).					
	Other Design Changes					
	Reading/ELA: No poetry.					
Louisiana	Writing: Prompt score uses two dimensions (composing and audience dimension of the six used in LEAP and GEE. Shorter response to writing prompt is required; For information resources section, questions are placed adjacent to the related resources.					
	Math: Reading difficulty level of test questions is minimized except for necessary mathematical terms.					
Maryland ²	Other Design Changes					
Maryland	All Content Areas: Administered as paper and pencil test or computerized version.					
	Other Design Changes					
North Carolina	Writing : Grades 4 and 7 use the same prompts as regular assessment but are scored using modified achievement standards; Response booklet uses larger space between lines, with few lines overall on which to respond; Test booklets are modified with fewer printed lines (25 instead of 50), providing more white space in between lines for composing responses.					
North Dakota	Other Design Changes					
	All Content Areas: Test is done on computer with the student and teacher together. The teacher enters the answer choice given by the student. Each question is presented on a single screen. Most questions are multiple choice with several teacher initiated questions (involves printing a screen shot of item, providing student with supplies to answer the item, give verbal instructions to student. The instructions are provided with the item and the teacher rates the student's response from several options.)					
	I .					

State	Specification Details and Other Design Changes							
	Specification Details							
	Segmentation of Passages : Break apart passages into smaller portions and place the specific questions that pertain to the smaller portion underneath that section.							
	Other Design Changes							
	All Content Areas: Eliminate questions that require students to select the better/best answer; Eliminate answers choices that give students the option to make "no change" to the item.							
	Reading: Display passages in one-column format.							
Oklahoma	Writing: Simplify the question; Simplify the writer's checklist; Use a 3-point holistic writing rubric.							
	Math: Display the number on all sides for questions about perimeter; Avoid items with negative and positive answer choice of the same number (for example -4 and +4) for lower grade levels; For lower grades use grids for area questions; Be consistent with qualifiers in stem and answer choices (i.e., use mL throughout or milliliters throughout); Avoid questions with best or closest, complicated art, and items that ask for students to redefine their perception of an object (i.e., fold this item along the dotted line).							
	Science: Emphasize pictures over text; Simplify cells and other diagrams; Optimize readability; Highlight, if possible; Put a box around formulas to make them stand out.							
	Specification Details							
	Distractor Removed : Delete one answer choice based on content and/or statistics of item.							
	Reading/ELA: All other distracters must come from the associated part or a previous part; Revise answer choices as necessary to reflect modifications made to the selection.							
	Segmentation of Passages: Divide the selection into meaningful thought units (parts) with items associated with that unit (part) immediately following it.							
Texas	Shorter Passages: Delete extraneous information that does not affect development of the selection or any context related to the tested items.							
ICAGS	Simplified Language: Change passive voice to active voice when appropriate; Add precise language to provide additional context for clarification;							
	Reading: Simplify difficult to decode or conceptually difficult vocabulary, phrases, or sentences when not tested; Break compound/complex sentences into simpler sentences; Separate contractions except in cases where this makes the sentence awkward; Edit figurative language when not tested by using simpler sentences, plain language, and delete unnecessary words; Change item from an open-ended statement ending with a dash to a direct question or vice versa, as necessary for clarification.							
	Math: Simplify complex sentence structure and vocabulary in item and answer choices without eliminating math vocabulary.							

NCEO NCEO

State	Specification Details and Other Design Changes
	Other Design Changes
	All Content Areas: Delete items that cannot be assessed due to passage modifications; Simplify visual complexity of graphics; Revise answer choices to reflect modifications made to selection. Add precise language to provide additional context for clarification; Direct student attention to graphics; Other changes include horizontal item layout (full width), reduce the blueprint and delete all embedded field test item; Spanish-TAKS M tests are not currently available (no side by side versions with Spanish and English).
	Reading: Test administrator reads the pre-reading text to the students that clarifies purpose and explains difficult concepts and vocabulary; Delete one part of a compound answer choice when possible; Paired selections in grades 3-8 are not tested as thematically linked; Delete items that cannot be modified based on guidelines; Delete crossover items, items that test author's organization of entire selection, and open-ended responses for reading selections in grades 9-11.
	Math: Reduce the number of variables and simplify digits in item when appropriate; Delete extraneous information including irrelevant material and unnecessary words in items or graphics; Change item from an open-ended statement to a direct question or vice versa, as necessary, for clarification; Use consistent language within an item in order to focus student attention on what is being asked; Revise text as necessary to maintain the authenticity and logic of the item due to modification; Provide new text and/or reorganize existing text within the question to explain or clarify the graphic; Provide additional graphics to support text, emphasize ideas, and facilitate comprehension; Reduce the number of variables and simplify digits in item when appropriate; Limit the number of steps and/or operations in multi-step problems; Provide explicit directions to explain a process such as measuring.
Texas (continued)	Science: Delete one part of compound answer choices when possible; Delete cluster items, griddable items, negative items, and items that cannot be modified based on guidelines; Delete extraneous information including irrelevant material and unnecessary words in items or graphics; Simplify complex sentence structure and vocabulary in item and answer choices without eliminating science vocabulary; Change item from an open-ended statement to a direct question or vice versa, as necessary, for clarification; Add precise language to provide additional context for clarification; Use consistent language with an item in order to focus student attention on what is being asked; Provide appropriate formula and/or conversion from science chart near the item; Provide explicit directions to explain a process such as measuring; Limit the number of steps and/or operations in multi-step problems; Provide new text and/or reorganize existing text within the question to explain or clarify the graphic; Provide additional graphics to support text, emphasize ideas, and facilitate comprehension; Reduce the number of variable and simplify digits in items when appropriate; Limit the number of steps and/or operations in multi-step problems; Provide appropriate formula and/or conversion from science chart near item; Provide explicit directions to explain a process such as measuring.
	Social Studies: Provide explanatory text in brackets in historical excerpts (quotations); Simplify complex sentence structure and vocabulary in item and answer choices without eliminating social studies vocabulary; Change item from an openended statement to a direct question or vice versa, as necessary, for clarification; Use consistent language with an item in order to focus student attention on what is being asked; Revise text as necessary to maintain the authenticity of the item due to modifications; Provide explanatory text in brackets in historic excerpts (quotations); Provide additional graphics to support text, emphasize ideas, and facilitate comprehension; Provide new text and/or reorganize existing text with the question to explain or clarify the graphic; Delete items that cannot be modified based on guidelines.

¹ Connecticut will implement in 2008-09.

²Maryland will implement in 2008-09 at the earliest.

Table B4. AA-MAS Embedded Accommodations, Selected States, 2008

		Accommodation Incorporated into AA-MAS Assessment Design										
State	Breaks as Needed	Calculator	Fewer Items/Page	Key Text Underlined/ Bolded/	Larger Font Size	Manipulatives	Read Aloud Questions and Answers	Scribe	Other			
California			Х		X*							
Connecticut ¹												
Kansas	Х			Х					X*			
Louisiana			Х		Х							
Maryland ²												
North Carolina			Х									
North Dakota		X*				X*		X*				
Oklahoma			X*	Х	Х							
Texas			Х	X*	X*		X*		X*			
Total	1	1	5	3	4	1	1	1	2			

^{*}See Table B5 for specifications and for descriptions of design changes.

¹ Connecticut will implement in 2008-09. Unable to determine if assessment will contain embedded accommodations. Detailed accommodations and test design information for this assessment was not available.

² Maryland will implement in 2008-09 at the earliest. Accommodations information for this assessment is not available.

Table B5. Specifications and Descriptions of Embedded Accommodations, 2008

State	Specification Details and Other Design Changes
California	Specification Details
California	Larger font: Helvetica sans serif.
Connecticut ¹	
Kansas	Other Embedded Accommodations
	Bulleted List
Louisiana	
Maryland ²	
North Carolina	
North Dakota	Specification Details
	Calculator and Manipulatives : Supplies given to student for assessment include pencil and paper, non-permanent marker, calculator, 12" ruler, number line 0-10, concrete math manipulatives (20), non-math text; book, number line from -7 to +7 with .5 intervals (secondary only), and dictionary.
	Scribe: This test will be done on the computer with the student and the teacher together. The test requires the teacher to enter the answer choice given by the student.
Oklahoma	Specification Details
	Fewer items per page: Minimize questions on the page (limit to 2).
	Specification Details
	Key Text Underlined/Bolded : Science and Social Studies: Provide definition of non-tested vocabulary in a text box near item and bold the defined term in the item. Reading: Provide definition of literary terms in a text box near the item and bold the defined term in the item.
	Larger Font Size: Larger point size, Verdana font.
Texas	Read Aloud Questions and Answers : Oral administration is not available, but reading of test questions and items are part of the design of the reading and math assessments.
	Writing test: Pre-reading test only allowed; Due to the design of the revising and editing section of the writing test, orally reading the test questions and answers is not allowed. It is not possible to provide standard administration procedures that maintain the TEKS objectives for items such as misspelled words, homonym choice, irregular verb forms, or misplaced modifiers.
	Other Embedded Accommodations
	Bulleted List: Math, Science and Social Studies: Use bullets to clearly organize complex items into smaller, meaningful parts.

¹ Connecticut will implement in 2008-09. Unable to determine if assessment will contain embedded accommodations. Detailed accommodations and test design information for this assessment not available.

 $^{^{2}}$ Maryland will implement in 2008-09 at the earliest. Accommodations information for this assessment not available.

Appendix C

Percentages of Items by Elementary, Middle, and High School Representative Grade

Table C1. Elementary Grade: Reading/ELA AA-MAS Assessments (Grade 4 unless otherwise noted, multiple choice unless otherwise noted)

i		AA-MAS		Regular	
State	ELA Component	Number of items	Percent	Number of items	Percent
	Reading/ELA				
	Word analysis, fluency, and systematic vocabulary development	11	23 %	18	24 %
	Reading comprehension (focus on informational materials)	10	21 %	15	20 %
	Literary response and analysis	9	12 %	6	12 %
California	Total Multiple Choice	27		42	
	Writing				
	Written and oral English language conventions	11	23 %	18	24 %
	Writing strategies	10	21 %	15	20 %
	Total Multiple Choice	21	44 %	33	44 %
	Total Reading/ELA and Writing		100%		100%
Connecticut	ON	No information available			
	Reading/ELA				
Kansas	Multiple choice	361		NA	
	Multiple measure items (field test)	161		NA	
	Total Multiple Choice	521		741	

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7 70		AA-MAS		Regular	
State	ELA Component	Number of items	Percent	Number of items	Percent
	Reading/ELA				
	Reading and Responding				
	Multiple Choice	8		20	
	Constructed Response	2		8	
	Using Information Resources				
	Multiple Choice	5		c)	
Louisiana ²	Constructed Response	1		2	
	Proofreading				
	Multiple Choice	8		8	
	Multiple Choice	21		33	
	Constructed Response	3		10	
	Writing			•	
	Constructed Response	1		_	
Maryland		No information available			
North Carolina	Reading/ELA¹	40	400 %	58	100 %
North Dakota	Reading/ELA¹	20-30³		NA	
	Reading/ELA				
	Vocabulary	9-114	72 %	12	24 %
Oklahoma	Comprehension/critical literacy	17-194	45 %	23	46 %
	Literature	6-84	18 %	6	18 %
	Research and information	4-64	13 %	9	12 %
	Total Multiple Choice	36-444	100 %	50	100 %

2,010		AA-MAS		Regular	
State	ELA Component	Number of items	Percent	Number of items	Percent
	Reading/ELA				
	Basic understanding	12	38%²	15	38%²
	Literary elements	9	19%5	8	20%2
	Analysis using reading strategies	9	19%5	7	18%5
	Analysis using critical/thinking skills	8	25%5	10	25%5
	Total Multiple Choice	32	101%	40	101%
	Writing ²				
	Composition	7		•	
Texas	Constructed Response				
	Organization (revising and editing)	3		4	
	Sentence structure (revising and editing)	7		8	
	Standard usage/word choice (revising and editing)	7		8	
	Punctuation, capitalization, spelling (revising and editing)	7		8	
	Total Multiple Choice	24		28	
	Total Constructed Response	1		1	

¹Totals only available. Information not available by strand.

Note: NA = Not Available

² Percentages not calculated due to combination of multiple choice and constructed response items.

 $^{^{\}scriptscriptstyle 3}$ North Dakota included a range of items in their description of items per subject.

⁴ Oklahoma listed an "ideal number of items" in their test blueprint.

⁵ Percentage calculated based on number of items.

Table C2. Elementary Grade: Mathematics AA-MAS Assessments (Grade 4 unless otherwise noted, multiple choice unless otherwise noted)

		AA-MAS		Regular	
State	Mathematics Component	Number of items	Percent	Number of items	Percent
	Mathematics				
	Number sense	23	48 %	31	48 %
	Algebra and functions	10	21 %	18	28 %
9:10	Measurement and geometry	10	21 %	12	18 %
Calloria	Statistics, data analysis, and probability	5	10 %	4	% 9
	Mathematical reasoning	Embedded		Embedded	
	Total Multiple Choice	48	100 %	65	100 %
Connecticut	Z	No information available			
Kansas	Mathematics	40		72	
	Mathematics				
	Number and number relations		20 %		40 %
	Algebra		16 %		2 %
	Measurement		16 %		10 %
Louisiana¹	Geometry		16 %		20 %
	Data analysis, probability, and discrete math		15 %		10 %
	Patterns, relations and functions		17 %		15 %
	Total Multiple Choice Total Constructed Response	42 2		60 3	

Maryland		No information available			
	Mathematics				
	Calculator Active	27 (all operational)	% 29	54 (includes some experimental items)	% 99
North Carolina	Calculator Inactive	13 (all operational)	33 %	28 (includes some experimental items)	34 %
	Total Multiple Choice	40		82	
North Dakota	Mathematics	20-30²		Not available	
	Mathematics				
	Algebraic reasoning	6-83	18 %	8	18 %
Oklahoma	Number sense	8-10³	22 %	10	22 %
	Geometry	9-11³	72 %	11	24 %
	Measurement	8-10³	22 %	10	22 %
	Data analysis and statistics	4-63	13 %	9	13 %
	Total Multiple Choice	35-45³	100%	45	100%
	Mathematics				
	Numbers, operations, and quantitative reasoning	6	26%4	11	26%4
	Patterns, relationships, and algebraic reasoning	9	18%4	2	17%4
Texas	Geometry and spatial reasoning	5	15%4	9	14%4
	Measurement	5	15%4	9	14%4
	Probability and statistics	3	9%4	4	10%4
	Mathematical processes and tools	9	18%4	8	19%4
	Total Multiple Choice	34	100%	42	100%

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¹ Number of items not calculated for each strand due to combination of multiple choice and constructed response items included in percentages.

 $^{\rm 2}$ North Dakota included a range of items in their description of items per subject.

 $^{\scriptscriptstyle 3}\,\mbox{Oklahoma listed an "ideal number of items" in their test blueprint.$

⁴ Percentage calculated based on number of items.

Note: NA = Not Available

Table C3. Elementary Grade: Science AA-MAS Assessments (Grade 4 unless otherwise noted)

		AA-MAS		Regular	
State	Science component	Number of items	Percent	Number of items	Percent
	Science (Grade 5)				
	Physical sciences	141	29 %	18²	30 %
	Life science	143	76 %	184	30 %
California	Earth sciences	145	76 %	18°	30 %
	Investigation and experimentation	67	13 %	89	10 %
	Total Multiple Choice	48	400%	09	100%
Connecticut	NO	No information available			
Kansas	Science	NA		44	100%
	Science				
Louisiana	Science as inquiry	2	20% ₉	8	20%
	Physical science	2	50%	8	50%
	Life science	2	50% ₉	8	50%
	Earth and space science	2	50% ₉	8	50%
	Science and the environment	2	50% ₉	8	50%
	Total Multiple Choice Total Constructed Response	35 2	100%	40 4	100%
Maryland	No information available				
North Carolina	Science	60 (all operational)	100%	80 (includes some experimental items)	
North Dakota	Science	20-3010	100%	NA	
	Science (Grade 5)				

Oklahoma	Observe and measure	8-1011	22 %	10	22 %
	Classify	8-1011	22 %	10	22 %
	Experiment	9-1111	72 %	11	24 %
	Interpret and communicate	12-1411	32 %	14	31 %
	Total Multiple Choice	37-45 ¹¹	101%	45	%66
Texas	Science (Grade 5)				
	Nature of science	11	34%9	13	33%
	Life science	2	22%9	6	22%
	Physical science	2	22%9	6	22%
	Earth/space science	7	22%9	6	22%
	Total Multiple Choice	32	100%³	40	101%

Of these items, 8 are from grade 5 and 6 are from grade 4.

Note: NA = Not Available

² Of these items 11 are from grade 5 and 7 are from grade 4.

³ Of these items, 7 are from grade 5 and 7 are from grade 4.

⁴ Of these items, 9 are from grade 5 and 9 are from grade 4.

 $^{^{\}rm 5}$ Of these items, 8 are from grade 5 and 6 are from grade 4. $^{\rm 6}$ Of these items, 11 are from grade 5 and 7 are from grade 4.

⁷ Of these items, 4 are from grade 5 and 2 are from grade 4.

 $^{^{\}rm 8}$ Of these items, 4 are from grade 5 and 2 are from grade 4.

⁹ Percentage calculated based on number of items.

¹⁰ North Dakota included a range of items in their description of items per subject.

¹¹ Oklahoma listed an "ideal number of items" in their test blueprint.

Table C4. Middle School Grade: Reading/ELA AA-MAS Assessments (Grade 8 unless otherwise noted)

4 70		AA-MAS		Regular	
State	ELA Component	Number of Items	Percent	Number of Items	Percent
	Reading/ELA				
	Word analysis, fluency, and systematic vocabulary development	9	11 %	6	12 %
	Reading comprehension (focus on informational materials)	13	24 %	18	24 %
	Literary response and analysis	11	20 %	15	20 %
	Total Multiple Choice	30		42	
California	Writing				
	Written and oral English language conventions	11	% 02	16	21 %
	Writing strategies	13	24 %	17	23%
	Total Multiple Choice	24		33	
	Total Reading/ELA and Writing	54	%66	75	100%
Connecticut	No information available				
	Reading/ELA				
303007	Multiple choice items	48		NA	
Nallsas	Multiple measure items (field test)	16		NA	
	Total Multiple Choice	64		84	
	Reading/ELA				
	Reading and Responding items Constructed Response	8 1		20 8 and 1 essay	
Louisiana¹	Using Information Resources Constructed Response	5 1		2 2	
	Proofreading	8		8	
	Total Multiple Choice	21		33	
	Writing (Grade 7) Constructed Response	1		٦	

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Maryland	No information available				
	Reading/ELA				
	Operational	40		53	
North Carolina	Embedded Experimental Items	0		6	
	Total Multiple Choice	40		62	
North Dakota	Reading/ELA	20-30²		NA	
	Reading/ELA (Grade 7)				
-	Vocabulary		43 %	10	20 %
Oklanoma	Comprehension		% E 7	20	40 %
	Literature		% 0E	12	24 %
	Research and information		% 9 1	8	16 %
	Total Multiple Choice		%66	20	100%
	Reading/ELA				
	Basic understanding	10		12	
	Literary elements	8		10	
	Analysis using reading strategies	8		10	
	Analysis using critical/thinking skills	12		16	
	Total Multiple Choice	38		48	
Texas³	Writing (Grade 7)				
	Composition Constructed Response	1		1	
	Organization (revising and editing)	4		9	
	Sentence structure (revising and editing)	8		10	
	Standard usage/word choice (revising and editing)	10		12	
	Punctuation, capitalization, spelling (revising and editing)	10		12	
	Total Multiple Choice Total Constructed Response	32 1		40 1	

¹ Percentages not calculated due to combination of multiple choice and constructed response items.

² North Dakota included a range of items in their description of items per subject.

³ Percentages not calculated due to mixture of Grade 8 Reading/ELA items and Grade 7 writing items in list.

Note: NA = Not Available

Table C5. Middle School Grade: Mathematics AA-MAS Assessments (Grade 8 unless otherwise noted, multiple choice unless otherwise noted)

		SAM-AA		Regular	
State	Mathematics component				
		Number of items, description	Percent	Number of items	Percent
	Mathematics				
	Number sense	18	34 %	22	34 %
	Algebra and functions	20	37 %	25	38 %
	Measurement and geometry	11	20 %	13	20 %
Callo	Statistics, data analysis, and probability	5	% 6	5	% 8
	Mathematical reasoning	Embedded		Embedded	
	Total Multiple Choice	54	100%	99	100%
Connecticut	No information available				
Kansas	Mathematics	40		72 -1041	
	Mathematics				
	Number and number relations		20 %		20 %
	Algebra		16 %		15 %
	Measurement		16 %		15 %
Louisiana ²	Geometry		16 %		70%
	Data analysis, probability, and discrete math		15 %		20 %
	Patterns, relations and functions		17 %		10 %
	Total Multiple Choice Total Constructed Response	42 2	100%	60 4	100%
Maryland	No information available				
	Mathematics				
North Carolina	Total Multiple Choice	40 (all operational)	100%	80 (includes some experimental items)	
North Dakota	Mathematics	20-30³	100%	NA	

	Mathematics				
	Algebraic reasoning	7-9⁴	% 02	6	20 %
	Number sense	6-84	18 %	8	18 %
Oklahoma	Geometry	6-84	18 %	8	18 %
	Measurement	10-124	% 27	12	27 %
	Data analysis and statistics	6-84	% 81	8	18 %
	Total Multiple Choice Items	35-45⁴	101%	45	101%
	Mathematics				
	Numbers, operations, and quantitative reasoning	8	20% ₅	10	20%
Texas	Patterns, relationships, and algebraic reasoning	8	₅ %0Z	10	20%
2	Geometry and spatial reasoning	9	15%2	7	14%
	Measurement	4	10%ء	5	10%
	Probability and statistics	9	15%2	8	16%
	Mathematical processes and tools	8	20%2	10	20%
	Total Multiple Choice	40	100%	20	100%

¹ Kansas used a range to describe number of items.

² Number of items not calculated for each strand due to inclusion of constructed response items in information reported by state.

³ North Dakota included a range of items in their description of items per subject.

⁴ Oklahoma listed an "ideal number of items" in their test blueprint.

⁵ Percentage calculated based on number of items.

Table C6. Middle School Grade: Science AA-MAS Assessments (Grade 8 unless otherwise noted)

		AA-MAS		Regular	
State	Science component	Number of Items	Percent	Number of items	Percent
	Science				
	Motion	7	13 %	8	13 %
	Forces	7	13 %	8	13 %
	Structure of matter	8	15 %	6	15 %
California	Earth in the solar system (earth science)	7	13 %	7	12 %
	Reactions	9	11 %	7	12 %
	Chemistry of living systems (life science)	3	% 9	3	2 %
	Periodic table	9	11 %	2	12 %
	Density and buoyancy	5	% 6	5	% 8
	Investigation and experimentation	5	% 6	9	10 %
	Total Multiple Choice	54	100%	09	100%
Connecticut	No information available				
Kansas	Science	NA		60 (Grade 7)	100%
Louisiana	No information available				
Maryland	No information available				
North Carolina	Science	60 (all operational)		80 (includes some experimental items)	
North Dakota	Science	20-301		Not available	
	Science				
Oklahoma	Observe and measure	6-82	18 %	8	18 %
	Classify	6-8²	18 %	8	18 %
	Experiment	13-15²	35 %	16	36 %
	Interpret and communicate	11-13 ²	30 %	13	79 %
	Total Multiple Choice	36-44²	101%	45	101%

Texas	Science				
	Nature of science	11	28%³	14	28%³
	Living systems and the environment	10	25%³	12	24%³
	Structures and properties of matter	5	13%³	9	12%³
	Motion, forces, and energy	5	13%³	9	12%³
	Earth and space systems	6	22%³	12	24%³
	Total Multiple Choice	40	101%	50	101%

¹ North Dakota included a range of items in their description of items per subject.

² Oklahoma listed an "ideal number of items" in their test blueprint.

³ Percentage calculated based on number of items.

Table C7. High School Grade: ELA AA-MAS Assessments (Grade 10 unless otherwise noted, multiple choice unless otherwise noted)

		Som-od		Redular	
State	ELA Component				
		Number of Items	Percent	Number of Items	Percent
California	Reading/ELA	In development		Has tests	
Connecticut		No information available			
	Reading/ELA				
	Multiple Choice	48		AN	
Nallsas	Multiple Measures (field test)	16		NA	
	Total Multiple Choice	48		64+1	
	Reading/ELA				
	Reading and Responding items Constructed Response	8 1		20 10 and 1 extended essay	
LOCI SIGN	Using Information Resources Constructed Response	5 1		5 2	
	Proofreading	8		8	
	Total Multiple Choice	21		33	
	Writing Constructed Response	1		1	
Maryland	Total Multiple Choice Total Constructed Response	30-35³		46 4	
	Reading				
	Operational Items	40		56	
North Carolina	Embedded Field Test Items	0		24	
	Total Multiple Choice	40		80	
North Dakota	Reading	20-30⁴		Not available	

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	Reading/ELA (English II EOI)			
	Vocabulary	4-55	4-85	
	Comprehension/critical literacy	9-115	16-205	
-	Literature	12-145	17-205	
Oklanoma ²	Research and information	3-55	4-65	
	Total Multiple Choice	28-35⁵	41-545	
	Writing component (English II EOI)			
	Grammar/usage and mechanics	7-95	12	
	Writing prompt	1	1	
	Total Multiple Choice Total Constructed Response	7-9 ⁴	12	
	Reading			
	Basic understanding	7	8	
	Literary elements and techniques Constructed Response	2	1 8	
Texas ²	Analysis and critical evaluation (reading)	8	12 2	
	Total Multiple Choice	22	28	
	Writing			
	Composition Constructed Response	1	1	
	Revising and editing	14	20	
	Total Multiple Choice Total Constructed Response	14	20	

¹ Kansas indicated that the assessment had "at least 64 items."

⁴ North Dakota used a range of items in their description of items per subject.

² Percentages not calculated due to combination of multiple choice and constructed response items.

 $^{^{\}scriptscriptstyle 3}\,\text{Maryland}$ used a range to describe the number of items for each session.

⁵ Oklahoma listed an "ideal number of items" in their test blueprint.

Table C8. High School Grade: Mathematics AA-MAS Assessments (Grade 10 unless otherwise noted, multiple choice unless otherwise noted)

		AA-MAS		Regular	
State	Mathematics component	Number of Items	Percent	Number of Items	Percent
California	Mathematics	In Development		Has Tests	
Connecticut	No information available				
Kansas	Mathematics	40	100%	104 (High School)	100%
	Mathematics				
	Number and number relations		20 %		40 %
	Algebra		16 %		15 %
Louisiana¹	Measurement		16 %		15 %
	Geometry		16 %		20 %
	Data analysis, probability, and discrete math		15 %		20 %
	Patterns, relations and functions		17 %		20 %
	Total Multiple Choice Total Constructed Response	42 2	100%	60 4	100%
Maryland²	Algebra Multiple Choice Items Constructed Response	30-35³		26 12	
North Carolina ²	Mathematics	40 (all operational)		80 (includes some experimental items)	
North Dakota ²	Mathematics	20-30⁴		Not available	
	Algebra EOI (HS)				
Oklahoma	Number sense and algebraic operations	10-12 ⁵	27 %	15	27 %
	Relations and functions	21-235	25 %	31	26 %
	Data analysis, probability & statistics	6-85	18 %	6	16 %
	Total Multiple Choice	37-435	100%	55	%66

	Mathematics				
	Functional relationships	4	9%6	5	9%6
	Properties and attributes of functions	4	9%6	5	9%6
	Linear functions	4	9%6	5	9%6
	Linear functions and inequalities	4	9%6	5	9%6
	Quadratic, other nonlinear functions	4	9%6	5	9%6
Texas ⁶	Geometric relationships and spatial reasoning	4	9%6	5	9%6
	2-D and 3-D representations	4	9%6	5	9%6
	Measurement	9	13% ⁶	7	13%
	Percents, proportions, probability, and statistics	4	9%6	5	9%6
	Mathematical processes and tools	7	16% ⁶	6	16%
	Total Multiple Choice	45	101%	56	101%

¹ Number of items not calculated for each strand due to combination of multiple choice and constructed response items included in percentages.

² Totals only available. Information not available by strand.

 $^{^{\}scriptscriptstyle 3}$ Maryland used a range to describe the number of items for each session.

⁴ North Dakota used a range of items in their description of items per subject.

⁵ Oklahoma listed an "ideal number of items" in their test blueprint.

⁶ Percentage calculated based on number of items.

Table C-9 High School Grade: Science AA-MAS Assessments (Grade 10 unless otherwise noted)

		SAM-AA		Regular	
State	Science component	Number of Items	Percent	Number of Items	Percent
California	In development			Has tests	
Connecticut	No information available				
	Science				
	Physical Science	NA		30	1%09
Nansas	Life Science	NA		30	1%05
	Total Multiple Choice	NA		09	100%¹
	Science				
	Science as inquiry	7		8	
	Physical science Constructed Response	7		10 1	
	Life science Constructed Response	7		10 1	
Louisiana ¹	Earth and space science Constructed Response	7		6	
	Science and the environment Constructed Response	2		9 1	
	Total Multiple Choice Items Total Constructed Response	35 2		40 3²	
Maryland³	Science (Biology) Total Multiple Choice Total Constructed Response	30-354		48 7	
North Carolina³	Science	40 (all operational)		80 (includes some experimental items)	
North	Science	20-30 ⁵		NA	
Dakota³	Science Biology EOI				

	Observe and measure	5-76	13 %	8	13 %
	Classify	5-7 ⁶	13 %	8	13 %
Oklahoma	Experiment	11-136	% 97	16	27 %
	Interpret and communicate	15-176	32 %	20	34 %
	Model	5-7 ⁶	13 %	8	13 %
	Total Multiple Choice	41-516	100%	09	100%
	Science				
	Nature of science	14	32%²	17	31%1
	Organization of living systems	6	20%²	11	20%1
Texas	Interdependence of organisms	6	20%	11	20%1
	Structures and properties of matter	9	14%7	8	15%1
	Motion, forces, and energy	9	14%7	8	15%1
	Total Multiple Choice	44	100%	55	101%

Percentages not calculated due to combination of multiple choice and constructed response items.

² Louisiana's Science as Inquiry dimensions I and II had three constructed response, and 1 extended constructed response in two of four strands.

³ Detailed information by strand not available on Web site.

⁴ Maryland used a range to describe the number of items for each session.

⁵ North Dakota used a range of items in their description of items per subject.

⁶ Oklahoma listed an "ideal number of items" in their test blueprint.

⁷ Percentage calculated based on number of items.

Table C-10 All Grades: Social Studies AA-MAS Assessments (Grade levels noted in table, multiple choice unless otherwise noted)

1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			2		
State	Social Studies component	AA-MAS		Regular	
		Number of Items Per	Percent	Number of Items	Percent
California	Social Studies	In development		Has tests	
Connecticut		No information available			
Kansas	Social studies test (Grade 6)	421	100%	48	100%
	Social studies test (Grade 8)	49² 1	100%	09	100%
	Social studies test (High School)				
	US Section	30	21%	30	%09
	World Section	22	42%	30	%09
	Total Multiple Choice	52 6	%66	09	100%
Louisiana ³	Social Studies, Grade 4				
	Total Multiple Choice Total Constructed Response	32 2		NA	
	Social Studies, Grade 8	No information available			
	Social Studies, Grade 11				
	Geography	8		6	
	Civics	8		15	
	Economics	8		12	
	History	8		24	
	Total Multiple Choice Total Constructed Response	32 2		60 4	
Maryland	Government Total Multiple Choice Total Constructed Response	30-35⁴		50 8	
North Carolina	No test				
North Dakota	No test				
Oklahoma	No test				

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	Social Studies. Grade 8				
	History	10	76%	13	27%
	Geography	5	13%	9	13%
	Economics and social influences	7	18%	O	19%
	Political influences	10	798	12	25%
	Social studies skills	9	16%	8	17%
	Total Multiple Choice	38	%66	48	101%
	Social Studies, Grade 10				
	History	5	13%	7	14%
, , , , , , , , , , , , , , , , , , ,	Geography	10	%27	12	24%
exas	Economics and social influences	9	15%	7	14%
	Political influences	6	%87	12	24%
	Social studies skills	10	72%	12	24%
	Total Multiple Choice	40	101%	50	100%
	Social Studies, Grade 11				
	History	10	23%	13	24%
	Geography	7	16%	6	16%
	Economics and social influences	10	%87	13	24%
	Political influences	7	16%	9	16%
	Social studies skills	10	23%	11	20%
	Total Multiple Choice	44	101%	55	100%

¹ Of these items, 18 are grade 5 items and 24 are grade 6.

² Of these items, 23 are grade 7 items and 26 are grade 8.

³ Percentages not calculated due to combination of multiple choice and constructed response items.

⁴ Maryland used a range to describe the number of items for each session.