



Spring 2024

Nebraska Student-Centered Assessment System (NSCAS)

Alternate Assessment

ELA • Mathematics • Science

TECHNICAL REPORT

APPENDICES

December 2024

Prepared by Data Recognition Corporation



Appendix A: NSCAS-AAELA Test Blueprint



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

ELA–Grade 3

Table of Specifications

for

Students with Significant Disabilities

who take the

Statewide Alternate Assessment

**ELA Grade 3 Alternate Assessment
Table of Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Reading Comprehension				
Reading Prose and Poetry				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level literary texts.				
LA.3.RP.1 Identify the central message or lesson in a literary text and explain how key details support that idea.				
LAE.3.RP.1 Use explicit text and/or illustrations to identify the main idea in a literary text.	0-2	0-4	0-2	0-4
LA.3.RP.2 Explain how characters respond to major events and challenges in a literary text.				
LAE.3.RP.2 Identify the main character(s) in a literary text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level literary and informational text.				
LA.3.RP.3 Determine and explain the point of view in a literary text.				
LAE.3.RP.3 Identify a narrator's/character's point of view explicitly stated in a literary text.	0-2	0-4	0-2	0-4
LA.3.RP.4 Explain how sections of a literary text (e.g., chapters, scenes, stanzas) build on one another and contribute to meaning.				
LAE.3.RP.4 Identify the beginning, middle, and end or a sequence in a literary text.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary text.				
LA.3.RP.5 Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary text.				
LAE.3.RP.5 Identify a similarity in characters, settings, or events between two literary texts by the same author (e.g., books from a series).	Assessed at the district level.			
LA.3.RP.6 Explain what the text says explicitly and draw inferences when asking and answering questions.				
LAE.3.RP.6 Answer literal questions using explicit information in a literary text.	0-2	0-4	0-2	0-4
LA.3.RP.7 Compare and contrast themes, topics, and/or patterns of events in a range of literary texts.				
LAE.3.RP.7 Identify a similarity in characters or events in two literary texts.	0-2	0-4	0-2	0-4
Reading Informational Text				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level informational text.				
LA.3.RI.1 Identify the central idea and explain how key details support that idea.				
LAE.3.RI.1 Use explicit text and/or illustrations to identify the central idea in an informational text.	0-2	0-4	0-2	0-4
LA.3.RI.2 Explain the relationships between individuals, historical events, scientific ideas or concepts, or steps in a process.				
LAE.3.RI.2 Identify an important individual or event in an informational text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level literary and informational text.				
LA.3.RI.3 Determine and explain the author's purpose in an informational text.				
LAE.3.RI.3 Identify if an author's purpose is to inform or entertain.	0-2	0-4	0-2	0-4

LA.3.RI.4 Explain how text features (titles, headings, table of contents, glossaries, captions, graphs, maps, and/or other visuals) contribute to meaning.				
LAE.3.RI.4 Use text features (i.e., titles, headings, table of contents, maps, pictures) to locate information.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary text.				
LA.3.RI.5 Compare and contrast the two most important ideas and key details presented by multiple informational texts on the same topic.				
LAE.3.RI.5 Identify a similar idea about the same topic presented in two different informational texts.	0-2	0-4	0-2	0-4
LA.3.RI.6 Identify an author's claim(s) and explain how the author supports the claim(s) in the text.				
LAE.3.RI.6 Answer literal questions, using explicit information from an informational text.	0-2	0-4	0-2	0-4
LA.3.RI.7 Compare and contrast topics and/or patterns of events in a range of informational texts.				
LAE.3.RI.7 Identify a similar topic or event in two informational texts.	0-2	0-4	0-2	0-4
Vocabulary				
Acquisition and Use: Build and use a range of conversational, academic, and discipline-specific grade-level vocabulary and apply to reading, writing, speaking, and listening.				
LA.3.V.1 Acquire and use grade-level academic vocabulary appropriately.				
LAE.3.V.1.a Use sentence-level context clues and/or illustrations to determine the meaning of a word.	0-2	0-4	0-2	0-4
LAE.3.V.1.b Use commonly occurring prefixes to determine the meaning of words.	0-2	0-4	0-2	0-4
LAE.3.V.1.c Use word structure to determine singular or plural nouns and/or familiar past or present verb tense.	0-2	0-4	0-2	0-4
Context and Connotation: Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies.				
LA.3.V.2 Interpret an author's use of figurative, connotative, and technical language in grade-level literary and informational text.				
LAE.3.V.2.a Identify the use of alliteration in text.	0-2	0-4	0-2	0-4
LAE.3.V.2.c Identify the relationship between words (e.g., same, opposite, beginning with the same initial letter or sound).	0-2	0-4	0-2	0-4
Writing				
Productions of Writing: Use a recursive writing process to produce clear and coherent writing appropriate to the discipline, audience, and/or context.				
LA.3.W.1 Write paragraphs using a variety of sentence types.				
LAE.3.W.1.a Capitalize the initial word in simple sentences.	0-2	0-4	0-2	0-4
LAE.3.W.1.b Use periods and question marks in simple sentences.	0-2	0-4	0-2	0-4
Modes of Writing: Write in a variety of modes for a variety of purposes and audiences across disciplines.				
LA.3.W.5 Write informative/explanatory pieces to examine a topic or text and convey ideas and information.				
LAE.3.W.5.b Identify details that relate to the given topic.	0-2	0-4	0-2	0-4
LA.3.W.6 Locate evidence from literary and/or informational text sources to answer questions about a topic.				
LAE.3.W.6.b Identify print and digital tools to gather information.	0-2	0-4	0-2	0-4
LAE.3.W.6.c Organize information into categories.	0-2	0-4	0-2	0-4



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

ELA–Grade 4 Table of Specifications
for
Students with Significant Disabilities
who take the
Statewide Alternate Assessment

**ELA Grade 4 Alternate
Assessment Table of
Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Reading Comprehension				
Reading Prose and Poetry				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level literary texts.				
LA.4.RP.1 Determine a theme in a literary text and how it is conveyed through key details.				
LAE.4.RP.1 Identify the explicitly stated main idea and/or a key detail that supports the explicitly stated main idea in a literary text.	0-2	0-4	0-2	0-4
LA.4.RP.2 Analyze a character, setting, or event in a literary text, drawing on specific details such as a character's thoughts, words, or actions.				
LAE.4.RP.2 Identify and describe the main character(s) or setting in a literary text, using key details from the text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level literary text.				
LA.4.RP.3 Distinguish reader perspective from the perspective and point of view of the narrator or the characters in a literary text.				
LAE.4.RP.3 Determine the narrator's or a character's point of view explicitly stated in a literary text.	0-2	0-4	0-2	0-4
LA.4.RP.4 Compare and contrast the structural elements of literary texts (e.g., dramas, narratives, and poems).				
LAE.4.RP.4 Identify a drama, a poem, or a story, using structural elements of a literary text.	Assessed at the district level.			
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary text.				
LA.4.RP.5 Compare and contrast the treatment of similar themes and topics and patterns of events in literary texts by different authors or from different cultures.				
LAE.4.RP.5 Identify a similarity in characters, settings, or events between two literary texts by the same author (e.g., books from a series).	Assessed at the district level.			
LA.4.RP.6 Explain what the text says explicitly and draw inferences when asking or answering questions, quoting, or paraphrasing specific evidence from the text as appropriate.				
LAE.4.RP.6 Answer literal questions, using explicit information from a literary text.	0-2	0-4	0-2	0-4
LA.4.RP.7 Explain an author or narrator/speaker's treatment of similar themes and/or patterns of events in a wide range of literary texts.				
LAE.4.RP.7 Identify a similarity in character traits, events, or themes in two literary texts.	0-2	0-4	0-2	0-4
Reading Informational Text				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level informational text.				
LA.4.RI.1 Determine the central idea of an informational text and how it is conveyed through key details.				
LAE.4.RI.1 Identify the explicitly stated central idea and/or a key detail that supports the explicitly stated central idea in an informational text.	0-2	0-4	0-2	0-4

LA.4.RI.2 Analyze an individual, event, scientific idea or concept, or steps in a process.				
LAE.4.RI.2 Identify how individuals or events are related in an informational text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level informational text.				
LA.4.RI.3 Compare and contrast authors' perspectives in multiple informational texts of the same topic.				
LAE.4.RI.3 Determine if an author's purpose is to inform, entertain, or persuade.	0-2	0-4	0-2	0-4
LA.4.RI.4 Describe the overall structure of an informational text and how it contributes to meaning.				
LAE.4.RI.4 Use text features (e.g., titles, headings, table of contents, glossaries, captions, graphs, maps, other visuals) to locate information.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary text.				
LA.4.RI.5 Integrate information from multiple informational texts on the same topic in order to demonstrate knowledge of the topic.				
LAE.4.RI.5 Identify similar ideas between two informational texts on the same topic.	0-2	0-4	0-2	0-4
LA.4.RI.6 Identify an author's claim(s) and explain how the author supports the claim in the text.				
LAE.4.RI.6 Answer literal questions, using explicit information from an informational text.	0-2	0-4	0-2	0-4
LA.4.RI.7 Explain an author or speaker's treatment of similar topics and/or patterns of events in a wide range of informational texts.				
LAE.4.RI.7 Identify patterns of events in two informational texts.	0-2	0-4	0-2	0-4
Vocabulary				
Acquisition and Use: Build and use a range of conversational, academic, and discipline-specific grade-level vocabulary and apply to reading, writing, speaking, and listening.				
LA.4.V.1 Acquire and use grade-level academic vocabulary appropriately.				
LAE.4.V.1.a Use context clues (e.g., definitions, examples, restatements) with or without illustrations to determine the meanings of words and phrases.	0-2	0-4	0-2	0-4
LAE.4.V.1.b Use commonly occurring prefixes and roots to determine the meaning of words.	0-2	0-4	0-2	0-4
Context and Connotation: Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies.				
LA.4.V.2 Interpret an author's use of figurative, connotative, and technical language in grade-level literary and informational text.				
LAE.4.V.2.a Use text and/or illustrations to determine the meaning of figurative language (e.g., alliteration, onomatopoeia).	0-2	0-4	0-2	0-4
LAE.4.V.2.c Identify commonly occurring synonyms.	0-2	0-4	0-2	0-4

Writing				
Productions of Writing: Use a recursive writing process to produce clear and coherent writing appropriate to the discipline, audience, and/or context.				
LA.4.W.1 Create grammatically correct sentences and paragraphs using a variety of sentence types and phrasing.				
LAE.4.W.1.a Capitalize initial words and names in simple and complex sentences.	0-2	0-4	0-2	0-4
LAE.4.W.1.b Use periods, question marks, and exclamation points in simple and complex sentences.	0-2	0-4	0-2	0-4
Modes of Writing: Write in a variety of modes for a variety of purposes and audiences across disciplines.				
LA.4.W.3 Write creative and/or expressive pieces that describe a well-developed event or experience.				
LAE.4.W.3.b Use precise words, phrases, and descriptive details to describe experiences or events.	0-2	0-4	0-2	0-4
LA.4.W.4 Write opinion pieces that explain a perspective with supporting reasons and/or evidence.				
LAE.4.W.4.b Identify facts to support reasons and/or evidence.	0-2	0-4	0-2	0-4
LA.4.W.6 Locate and summarize relevant evidence from literary and/or informational text sources to answer questions about a topic.				
LAE.4.W.6.b Identify appropriate print and digital sources needed to gather information about a given topic.	0-2	0-4	0-2	0-4



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

ELA–Grade 5 Table of Specifications
for
Students with Significant Disabilities
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Statewide Alternate Assessment

**ELA Grade 5 Alternate Assessment
Table of Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Reading Comprehension				
Reading Prose and Poetry				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level literary texts.				
LA.5.RP.1 Explain the theme in a literary text and how it is conveyed through key details.				
LAE.5.RP.1 Identify the explicitly stated main idea and/or a key detail that supports the explicitly stated main idea in a literary text.	0-2	0-4	0-2	0-4
LA.5.RP.2 Compare and contrast two or more characters, settings, or events in a literary text or texts.				
LAE.5.RP.2 Compare or contrast two characters, settings, or events in a literary text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level literary text.				
LA.5.RP.3 Describe how a narrator or speaker's point of view influences the meaning of a literary text.				
LAE.5.RP.3 Identify the point of view from which a text is written (i.e., character in the story, narrator outside the story).	0-2	0-4	0-2	0-4
LA.5.RP.4 Explain how a sequence of chapters, scenes, or stanzas fit together to provide the overall structure of literary texts.				
LAE.5.RP.4 Retell a simple literary text with a beginning, middle, and end.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary text.				
LA.5.RP.5 Compare and contrast the treatment of themes and topics in literary texts of the same genre.				
LAE.5.RP.5 Identify similarities or differences between two literary texts on the same topic.	0-2	0-4	0-2	0-4
LA.5.RP.6 Analyze a literary text to answer and develop inferential questions to enhance the comprehension of self and others, quoting or paraphrasing specific evidence from the text.				
LAE.5.RP.6 Answer literal and inferential questions, using information from a literary text.	0-2	0-4	0-2	0-4
LA.5.RP.7 Explain the relationships between two or more characters, events, or ideas in a range of literary texts.				
LAE.5.RP.7 Identify the relationship between two characters, two events, or two ideas in a literary text.	0-2	0-4	0-2	0-4
Reading Informational Text				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level informational text.				
LA.5.RI.1 Explain the central idea in an informational text and how it is conveyed through key details.				
LAE.5.RI.1 Identify the explicitly stated central idea and/or a key detail that supports the explicitly stated central idea in an informational text.	0-2	0-4	0-2	0-4
LA.5.RI.2 Compare and contrast two or more individuals, events, scientific ideas or concepts, or steps in a process, drawing on supporting details from an informational text or texts.				
LAE.5.RI.2 Compare or contrast two individuals, events, ideas, or steps in a process in an informational text.	0-2	0-4	0-2	0-4

Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level informational text.				
LA.5.RI.3 Determine the author's purpose(s) and describe how the author's perspective (e.g., beliefs, assumptions, biases) influences the meaning of an informational text.				
LAE.5.RI.3 Identify an author's purpose in an informational text.	0-2	0-4	0-2	0-4
LA.5.RI.4 Explain how text features (titles, headings, table of contents, glossaries, captions, graphs, maps, and/or other visuals) contribute to the meaning of texts.				
LAE.5.RI.4 Use text features (e.g., titles, headings, table of contents, glossaries, captions, graphs, maps, other visuals) to locate information.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level informational text.				
LA.5.RI.5 Integrate information from multiple texts on the same topic in order to demonstrate knowledge of the topic.				
LAE.5.RI.5 Summarize ideas from two informational texts on the same topic.	0-2	0-4	0-2	0-4
LA.5.RI.6 Analyze the development of an author's claim(s) and how supporting evidence is used to support the claim(s).				
LAE.5.RI.6 Answer literal and inferential questions, using information from an informational text.	0-2	0-4	0-2	0-4
LA.5.RI.7 Explain the relationships between two or more individuals, events, ideas, or concepts in a range of informational texts.				
LAE.5.RI.7 Identify the relationship between two individuals, two events, or two ideas in an informational text.	0-2	0-4	0-2	0-4
Vocabulary				
Acquisition and Use: Build and use a range of conversational, academic, and discipline-specific grade-level vocabulary and apply to reading, writing, speaking, and listening.				
LA.5.V.1 Acquire and use grade-level academic vocabulary appropriately.				
LAE.5.V.1.a Use context clues (e.g., definitions, examples, restatements, comparisons in text) with or without illustrations to determine the meanings of words and phrases.	0-2	0-4	0-2	0-4
LAE.5.V.1.b Use commonly occurring affixes to determine the meanings of words.	0-2	0-4	0-2	0-4
Context and Connotation: Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies.				
LA.5.V.2 Interpret an author's use of figurative, connotative, and technical language in grade-level literary and informational text.				
LAE.5.V.2.a Use text and/or illustrations to determine the meaning of figurative language (e.g., alliteration, onomatopoeia, similes).	0-2	0-4	0-2	0-4
LAE.5.V.2.c Identify commonly occurring synonyms and antonyms.	0-2	0-4	0-2	0-4

Writing				
Productions of Writing: Use a recursive writing process to produce clear and coherent writing appropriate to the discipline, audience, and/or context.				
LA.5.W.1 Create grammatically correct multi-paragraph compositions with varied sentence structures.				
LAE.5.W.1.a Identify the use of quotation marks to indicate words spoken by characters in a text and/or a direct quote.	0-2	0-4	0-2	0-4
LAE.5.W.1.b Use commas to separate three items in a list.	0-2	0-4	0-2	0-4
Modes of Writing: Write in a variety of modes for a variety of purposes and audiences across disciplines.				
LA.5.W.3 Write creative and/or expressive pieces that describe a well-developed event or experience.				
LAE.5.W.3.b Use precise words, phrases, and descriptive details to describe experiences or events.	0-2	0-4	0-2	0-4
LA.5.W.4 Write opinion pieces that explain a perspective with supporting reasons and evidence.				
LAE.5.W.4.c Identify words and phrases that connect two main ideas.	0-2	0-4	0-2	0-4
LA.5.W.6 Locate and summarize relevant evidence from literary and/or informational text sources to answer questions about a topic.				
LAE.5.W.6.b Identify relevant evidence from print and digital sources to support information on a given topic.	0-2	0-4	0-2	0-4



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ELA–Grade 6 Table of Specifications
for

Students with Significant Disabilities
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Statewide Alternate Assessment

**ELA Grade 6 Alternate
Assessment Table of
Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Reading Comprehension				
Reading Prose and Poetry				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level literary texts.				
LA.6.RP.1 Determine the implied or explicit theme of a literary text and how it develops over the course of a text.				
LAE.6.RP.1 Identify the explicit main idea or theme and/or a detail that supports that main idea or theme in a literary text.	0-2	0-4	0-2	0-4
LA.6.RP.2 Explain how a plot unfolds as well as how the characters respond to events or changes as the plot moves toward a resolution.				
LAE.6.RP.2 Identify how a character(s) changes from the beginning to the end of a literary text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level literary text.				
LA.6.RP.3 Explain how an author establishes and conveys the point(s) of view of a narrator or speaker in a literary text.				
LAE.6.RP.3 Identify the point of view from which a text is written (i.e., character in the story, narrator outside the story), using key detail(s) from the text.	0-2	0-4	0-2	0-4
LA.6.RP.4 Analyze how a sequence of chapters, scenes, or stanzas contribute to the development of literary elements (e.g., theme, setting, or plot).				
LAE.6.RP.4 Identify a change in a literary element (e.g., character, plot, setting) from the beginning to the end of a literary text.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary and informational text.				
LA.6.RP.5 Compare and contrast texts in different forms or genres (e.g., stories and poems, historical novels, fantasy stories) and their treatment of similar themes and topics.				
LAE.6.RP.5 Compare how the same topic is presented in two different literary genres.	0-2	0-4	0-2	0-4
LA.6.RP.6 Analyze a literary text to answer and develop inferential and evaluative questions to enhance the comprehension of self and others, quoting or paraphrasing specific evidence from the text.				
LAE.6.RP.6 Answer literal and inferential questions about a literary text.	0-2	0-4	0-2	0-4
LA.6.RP.7 Compare and contrast regional, national, and/or multicultural perspectives within and across literary texts.				
LAE.6.RP.7 Compare multicultural perspectives in a literary text(s).	Assessed at the district level.			
Reading Informational Text				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level informational text.				
LA.6.RI.1 Determine the implied or explicit central idea of an informational text and how it develops over the course of a text.				
LAE.6.RI.1 Identify the explicit central idea and/or a detail that supports that central idea in an informational text.	0-2	0-4	0-2	0-4

LA.6.RI.2 Explain how a key individual, event, or idea or concept is introduced and developed, drawing on specific supporting details in an informational text.				
LAE.6.RI.2 Identify a detail that introduces a key individual or develops a key idea or event in an informational text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level informational text.				
LA.6.RI.3 Explain how an author establishes and conveys a perspective or purpose in an informational text.				
LAE.6.RI.3 Identify an author's purpose in an informational text.	0-2	0-4	0-2	0-4
LA.6.RI.4 Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.				
LAE.6.RI.4 Identify how a particular phrase or sentence contributes to the structure and/or development of ideas in an informational text.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level informational text.				
LA.6.RI.5 Compare and contrast one author's presentation of information with that of another.				
LAE.6.RI.5 Compare how the same topic is presented in two different informational texts.	0-2	0-4	0-2	0-4
LA.6.RI.6 Analyze the development of an argument and identify the type(s) of reasoning used to support the argument.				
LAE.6.RI.6 Answer literal and inferential questions about an informational text.	0-2	0-4	0-2	0-4
LA.6.RI.7 Compare and contrast regional, national, and/or multicultural perspectives within and across informational texts.				
LAE.6.RI.7 Compare multicultural perspectives in an informational text(s).	Assessed at the district level.			
Vocabulary				
Acquisition and Use: Build and use a range of conversational, academic, and discipline-specific grade-level vocabulary and apply to reading, writing, speaking, and listening.				
LA.6.V.1 Integrate grade-level academic vocabulary appropriately for a variety of tasks and purposes.				
LAE.6.V.1.a Use context clues (e.g., definitions, examples, restatements, comparisons in text, the overall meaning of a sentence, a word's position in a sentence) to determine the meanings of words and phrases.	0-2	0-4	0-2	0-4
LAE.6.V.1.b Use commonly occurring affixes and roots to determine the meanings of words.	0-2	0-4	0-2	0-4
Context and Connotation: Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies.				
LA.6.V.2 Interpret an author's use of figurative, connotative, and technical language in grade-level literary and informational text.				
LAE.6.V.2.a Use text and/or illustrations to determine the meaning of figurative language (e.g., alliteration, onomatopoeia, similes, metaphors).	0-2	0-4	0-2	0-4
LAE.6.V.2.c Identify commonly occurring synonyms, antonyms, and homographs.	0-2	0-4	0-2	0-4
Writing				
Productions of Writing: Use a recursive writing process to produce clear and coherent writing appropriate to the discipline, audience, and/or context.				
LA.6.W.1 Create grammatically correct multi-paragraph compositions with varied sentence structures.				
LAE.6.W.1.a Capitalize proper nouns in simple sentences.	0-2	0-4	0-2	0-4
LAE.6.W.1.b Use ending punctuation (limited to a period, question mark, and exclamation point) and commas in a series (limited to three items).	0-2	0-4	0-2	0-4

Modes of Writing: Write in a variety of modes for a variety of purposes and audiences across disciplines.				
LA.6.W.3 Write in a variety of literary forms to convey real or imagined experiences or events in which the development and structure are appropriate to the task, purpose, and audience.				
LAE.6.W.3.d Use precise words, phrases, and descriptive details to describe experiences and events.	0-2	0-4	0-2	0-4
LA.6.W.4 Write arguments that explain a perspective with supporting reasons and evidence.				
LAE.6.W.4.b Identify evidence that answers a question about a given topic.	0-2	0-4	0-2	0-4
LAE.6.W.4.c Identify a word or phrase that shows a connection between a claim and supporting evidence (e.g., because, as a result, so, this means).	0-2	0-4	0-2	0-4
LA.6.W.6 Gather and use credible evidence from trustworthy sources and assess its relevance in answering a research question.				
LAE.6.W.6.b Identify credible print and digital sources of information to research a topic.	0-2	0-4	0-2	0-4



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

ELA–Grade 7 Table of Specifications
for
Students with Significant Disabilities
who take the
Statewide Alternate Assessment

**ELA Grade 7 Alternate
Assessment Table of
Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Reading Comprehension				
Reading Prose and Poetry				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level literary texts.				
LA.7.RP.1 Determine two or more implied or explicit themes in a literary text and how they are supported with key details.				
LAE.7.RP.1 Identify the explicit main idea or theme and/or a detail that supports that main idea or theme in a literary text.	0-2	0-4	0-2	0-4
LA.7.RP.2 Analyze how particular events, lines of dialogue, or descriptive details develop the plot, reveal aspects of characters, or create meaning.				
LAE.7.RP.2 Identify a key detail that develops the plot of a literary text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level literary text.				
LA.7.RP.3 Analyze how an author establishes, conveys, and contrasts the points of view of different characters or narrators in a literary text.				
LAE.7.RP.3 Compare two characters' points of view in a literary text.	0-2	0-4	0-2	0-4
LA.7.RP.4 Analyze the structure of a literary text, and how the structure contributes to its theme(s) and meaning.				
LAE.7.RP.4 Identify the structure (e.g., narrative, compare/contrast, cause/effect, sequential/chronological) of a literary text.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary and informational text.				
LA.7.RP.5 Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period.				
LAE.7.RP.5 Determine whether a literary text is fiction or nonfiction, using details from the text.	0-2	0-4	0-2	0-4
LA.7.RP.6 Synthesize the implied or stated theme(s) in a literary text to draw conclusions and deepen understanding of self and others.				
LAE.7.RP.6 Answer literal and inferential questions about a literary text.	0-2	0-4	0-2	0-4
Reading Informational Text				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level informational text.				
LA.7.RI.1 Determine two or more implied or explicit central ideas of an informational text and how they are supported with key details.				
LAE.7.RI.1 Identify the explicit central idea and/or a detail that supports that central idea in an informational text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level informational text.				
LA.7.RI.3 Analyze how an author establishes or conveys a perspective or purpose and distinguishes it from that of others.				
LAE.7.RI.3 Identify an author's purpose in an informational text.	0-2	0-4	0-2	0-4

LA.7.RI.4 Analyze how the major sections of text contribute to the development of ideas in an informational text.				
LAE.7.RI.4 Identify the structure (e.g., compare/contrast, cause/effect, sequential/chronological) of an informational text.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level informational text.				
LA.7.RI.5 Analyze how the major sections of text contribute to the development of ideas in an informational text.				
LAE.7.RI.5 Identify a phrase or sentence that contributes to the development of ideas in an informational text.	0-2	0-4	0-2	0-4
LA.7.RI.6 Analyze the development of an argument and identify the type(s) of reasoning used to support the argument.				
LAE.7.RI.6 Answer literal and inferential questions about an informational text.	0-2	0-4	0-2	0-4
Vocabulary				
Acquisition and Use: Build and use a range of conversational, academic, and discipline-specific grade-level vocabulary and apply to reading, writing, speaking, and listening.				
LA.7.V.1 Integrate grade-level academic vocabulary appropriately for a variety of tasks and purposes.				
LAE.7.V.1.a Use context clues (e.g., definitions, examples, restatements, comparisons in text, the overall meaning of a sentence, a word's position in a sentence, cause/effect) to determine the meanings of words and phrases.	0-2	0-4	0-2	0-4
LAE.7.V.1.b Use commonly occurring affixes and roots to determine the meanings of words.	0-2	0-4	0-2	0-4
Context and Connotation: Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies.				
LA.7.V.2 Interpret an author's use of figurative, connotative, and technical language in grade-level literary and informational text.				
LAE.7.V.2.a Use context clues to determine the meaning of figurative language (e.g., alliteration, onomatopoeia, similes, metaphors, personification).	0-2	0-4	0-2	0-4
LAE.7.V.2.c Identify commonly occurring synonyms, antonyms, homographs, and homophones.	0-2	0-4	0-2	0-4
Writing				
Productions of Writing: Use a recursive writing process to produce clear and coherent writing appropriate to the discipline, audience, and/or context.				
LA.7.W.1 Create grammatically correct multi-paragraph compositions with varied sentence structures.				
LAE.7.W.1.a Capitalize proper nouns in complex sentences.	0-2	0-4	0-2	0-4
LAE.7.W.1.b Use ending punctuation (limited to a period, question mark, and exclamation point) and commas in a series (limited to three items).	0-2	0-4	0-2	0-4

Modes of Writing: Write in a variety of modes for a variety of purposes and audiences across disciplines.				
LA.7.W.3 Write in a variety of literary forms to convey real or imagined experiences or events in which the development and structure are appropriate to the task, purpose, and audience.				
LAE.7.W.3.d Use precise words, phrases, and descriptive details to describe experiences and events.	0-2	0-4	0-2	0-4
LA.7.W.4 Write arguments that develop a perspective with supporting reasons and evidence, organized as appropriate to the task, purpose, and audience.				
LAE.7.W.4.b Identify evidence that answers a question about a given topic.	0-2	0-4	0-2	0-4
LAE.7.W.4.c Determine a word or phrase that shows a connection between a claim and supporting evidence (e.g., because, as a result, so, this means).	0-2	0-4	0-2	0-4
LA.7.W.6 Gather and use credible evidence from trustworthy sources and assess its relevance in answering a research question.				
LAE.7.W.6.b Identify credible print and digital sources of information to research a topic.	0-2	0-4	0-2	0-4



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

ELA–Grade 8 Table of Specifications
for
Students with Significant Disabilities
who take the
Statewide Alternate Assessment

ELA Grade 8 Alternate Assessment Table of Specifications				
	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Reading Comprehension				
Reading Prose and Poetry				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level literary texts.				
LA.8.RP.1 Determine two or more implied or explicit themes of a text and how they develop over the course of a literary text, including their relationship to supporting ideas.				
LAE.8.RP.1 Determine the explicit or implied main idea or theme of a literary text and/or a key detail that supports that main idea or theme.	0-2	0-4	0-2	0-4
LA.8.RP.2 Analyze how particular events, lines of dialogue, or descriptive details develop the plot, reveal aspects of characters, or create meaning.				
LAE.8.RP.2 Identify a key detail that develops the plot of a literary text.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level literary text.				
LA.8.RP.3 Analyze how an author establishes, conveys, and contrasts the points of view of the audience and the characters to create effects such as suspense, humor, or dramatic irony in a literary text.				
LAE.8.RP.3 Compare two characters' points of view in a literary text.	0-2	0-4	0-2	0-4
LA.8.RP.4 Compare and contrast the structure of two or more literary texts and how their structures contribute to style and meaning.				
LAE.8.RP.4 Determine the structure (e.g., narrative, compare/contrast, cause/effect, sequential/chronological) of a literary text or a portion of a literary text.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary text.				
LA.8.RP.5 Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works.				
LAE.8.RP.5 Identify similarities or differences in themes, patterns of events, or character types between two fictional texts.	0-2	0-4	0-2	0-4
LA.8.RP.6 Synthesize the implied or stated theme(s) in a literary text to draw conclusions and deepen understanding of self and others.				
LAE.8.RP.6 Answer literal and inferential questions about a literary text.	0-2	0-4	0-2	0-4
Reading Informational Text				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level informational text.				
LA.8.RI.1 Determine two or more implied or explicit central ideas and how they develop over the course of an informational text, including their relationship to supporting ideas.				
LAE.8.RI.1 Determine the explicit or implied central idea of an informational text and/or a key detail that supports that central idea.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level informational text.				
LA.8.RI.3 Analyze how an author establishes, conveys, and contrasts perspective or purpose in a text and how the author acknowledges and responds to conflicting evidence or viewpoints.				
LAE.8.RI.3 Identify an author's perspective or purpose in an informational text.	0-2	0-4	0-2	0-4

LA.8.RI.4 Compare and contrast the structure of a specific paragraph in an informational text, including the role of particular sentences in developing and refining a key concept.				
LAE.8.RI.4 Determine the structure (e.g., compare/contrast, cause/effect, sequential/chronological) of an informational text or a portion of an informational text.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level informational text.				
LA.8.RI.5 Analyze how two or more texts provide conflicting information on the same topic, including where the texts disagree on matters of evidence or interpretation.				
LAE.8.RI.5 Identify conflicting information or other differences between two informational texts on the same topic written by different authors.	0-2	0-4	0-2	0-4
LA.8.RI.6 Analyze the development of an argument and evaluate the effectiveness of the type(s) of reasoning used to support the argument.				
LAE.8.RI.6 Answer literal and inferential questions about a persuasive text or other types of informational text.	0-2	0-4	0-2	0-4
Vocabulary				
Acquisition and Use: Build and use a range of conversational, academic, and discipline-specific grade-level vocabulary and apply to reading, writing, speaking, and listening.				
LA.8.V.1 Integrate grade-level academic vocabulary appropriately for a variety of tasks and purposes.				
LAE.8.V.1.a Use context clues (e.g., definitions, examples, restatements, comparisons in text, the overall meaning of a sentence, a word's position in a sentence, cause/effect) to determine the meanings of words and phrases.	0-2	0-4	0-2	0-4
LAE.8.V.1.b Use commonly occurring affixes and roots to determine the meanings of words.	0-2	0-4	0-2	0-4
Context and Connotation: Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies.				
LA.8.V.2 Interpret an author's use of figurative, connotative, and technical language in grade-level literary and informational text.				
LAE.8.V.2.a Use context clues to determine the meaning of figurative language (e.g., alliteration, onomatopoeia, similes, metaphors, personification, idioms).	0-2	0-4	0-2	0-4
LAE.8.V.2.c Identify commonly occurring synonyms, antonyms, homographs, and homophones.	0-2	0-4	0-2	0-4
Writing				
Productions of Writing: Use a recursive writing process to produce clear and coherent writing appropriate to the discipline, audience, and/or context.				
LA.8.W.1 Create grammatically correct multi-paragraph compositions with varied sentence structures.				
LAE.8.W.1.a Capitalize proper nouns in complex sentences.	0-2	0-4	0-2	0-4
LAE.8.W.1.b Use ending punctuation (limited to a period, question mark, and exclamation point) and commas in a series (limited to three items).	0-2	0-4	0-2	0-4

Modes of Writing: Write in a variety of modes for a variety of purposes and audiences across disciplines.				
LA.8.W.3 Write in a variety of literary forms to convey real or imagined experiences or events in which the development and structure are appropriate to the task, purpose, and audience.				
LAE.8.W.3.d Use precise words, phrases, and descriptive details to describe experiences and events.	0-2	0-4	0-2	0-4
LA.8.W.4 Write arguments that develop a perspective with supporting reasons and evidence, organized as appropriate to the task, purpose, and audience.				
LAE.8.W.4.b Identify a claim made about a given topic.	0-2	0-4	0-2	0-4
LAE.8.W.4.c Use relevant evidence to support a claim.	0-2	0-4	0-2	0-4
LA.8.W.6 Gather and use credible evidence from multiple trustworthy sources and assess its relevance in answering the research question(s).				
LAE.8.W.6.b Identify and/or use credible print and digital sources of information to ask and answer questions about a given topic.	0-2	0-4	0-2	0-4



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

ELA– High School Table of Specifications
for
Students with Significant Disabilities
who take the
Statewide Alternate Assessment

**ELA High School Alternate
Assessment Table of
Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Reading Comprehension				
Reading Prose and Poetry				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level literary texts.				
LA.12.RP.1 Evaluate the development of two or more implied or explicit themes over the course of a literary text or texts.				
LAE.12.RP.1 Determine the explicit or implied main idea or theme of a literary text and/or a key detail that supports that main idea or theme.	0-2	0-4	0-2	0-4
LA.12.RP.2 Analyze the development and interaction of literary elements such as characterization, setting, and plot, and how they contribute to the meaning of the work as a whole.				
LAE.12.RP.2 Answer literal and inferential questions about key elements (e.g., characters, setting, plot) in a literary text, and/or identify how a relationship between key elements (e.g., characters, setting, plot) in a literary text contributes to the meaning of a story.	0-2	0-4	0-2	0-4
Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level literary text.				
LA.12.RP.3 Evaluate an author's use of point of view and how it contributes to the meaning, significance, or aesthetic of a literary text.				
LAE.12.RP.3 Determine the author's point of view that contributes to the overall meaning of a literary text.	0-2	0-4	0-2	0-4
LA.12.RP.4 Evaluate how an author develops structure in a literary text to contribute to its overall meaning and aesthetic impact.				
LAE.12.RP.4 Determine the structure (e.g., narrative, compare/contrast, cause/effect, sequential/chronological) of a literary text or a portion of a literary text.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level literary text.				
LA.12.RP.6 Evaluate themes within and across literary texts to draw conclusions, deepen understanding of self and others, and generate questions for further inquiry.				
LAE.12.RP.6 Determine how the themes of two literary texts are related.	0-2	0-4	0-2	0-4
Reading Informational Text				
Central Ideas and Details: Citing relevant and thorough textual evidence to support ideas, evaluate the development of themes or central ideas in grade-level informational text.				
LA.12.RI.1 Evaluate the development of central ideas over the course of an informational text or texts.				
LAE.12.RI.1 Determine the explicit or implied central idea of an informational text and/or a key detail that supports that central idea.	0-2	0-4	0-2	0-4

Author's Craft: Citing relevant and thorough evidence to support ideas, evaluate the development and interaction of individuals, ideas, and events in grade-level informational text.				
LA.12.RI.3 Evaluate an author's perspective or purpose and how it contributes to the meaning, significance, or aesthetic of an informational text.				
LAE.12.RI.3 Determine an author's perspective or purpose that contributes to the overall meaning of an informational text.	0-2	0-4	0-2	0-4
LA.12.RI.4 Evaluate the effectiveness of the structure an author uses in an exposition or argument, including whether the structure makes the points clear, convincing, and engaging.				
LAE.12.RI.4 Determine the structure (e.g., compare/contrast, cause/effect, sequential/chronological) of an informational text or a portion of an informational text.	0-2	0-4	0-2	0-4
Knowledge and Ideas: Citing relevant and thorough textual evidence to support ideas, evaluate how an author's perspective or use of point of view shapes the style and meaning of grade-level informational text.				
LA.12.RI.6 Compare and contrast the development of multiple arguments in texts of related topics, evaluating the effectiveness and validity of the claims.				
LAE.12.RI.6 Determine how the central ideas of two informational texts are related.	0-2	0-4	0-2	0-4
Vocabulary				
Acquisition and Use: Build and use a range of conversational, academic, and discipline-specific grade-level vocabulary and apply to reading, writing, speaking, and listening.				
LA.12.V.1 Integrate grade-level academic vocabulary appropriately for a variety of tasks and purposes.				
LAE.12.V.1.a Use context clues (e.g., definitions, examples, restatements, comparisons in text, the overall meaning of a sentence, a word's position in a sentence, cause/effect) to determine the meanings of words and phrases.	0-2	0-4	0-2	0-4
Context and Connotation: Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies.				
LA.12.V.2 Interpret an author's use of figurative, connotative, and technical language in grade-level literary and informational text.				
LAE.12.V.2.a Use context clues to determine the meaning of figurative language (e.g., alliteration, onomatopoeia, similes, metaphors, personification, idioms).	0-2	0-4	0-2	0-4
Writing				
Modes of Writing: Write in a variety of modes for a variety of purposes and audiences across disciplines.				
LA.12.W.3 Write in a variety of literary forms to convey real or imagined experiences or events, themes, and perspectives in which the development, structure, and style are appropriate to the task, purpose, and discipline.				
LAE.12.W.3.d Use precise word choice, descriptive details, and/or figurative language to describe experiences, events, ideas, or to tell a story.	0-2	0-4	0-2	0-4
LA.12.W.4 Write arguments that develop a perspective with supporting reasons and evidence, organized as appropriate to the task, purpose, and audience.				
LAE.12.W.4.b Identify a claim made about a given topic.	0-2	0-4	0-2	0-4
LAE.12.W.4.c Use words, phrases, or sentences to connect a claim and supporting evidence.	0-2	0-4	0-2	0-4
LA.12.W.6 Gather and use credible evidence from multiple authoritative sources, evaluate the strengths and limitations of sources in terms of the task, purpose, and audience, and assess their relevance in answering the research question(s).				

LAE.12.W.6.b Identify and/or use credible print and digital sources of information to ask and answer questions about a given topic.	0-2	0-4	0-2	0-4
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Appendix B: NSCAS- AAM Test Blueprint



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics–Grade 3

Table of Specifications

for

Students with Significant Disabilities

who take the

Statewide Alternate Assessment

**Mathematics Grade 3 Alternate Assessment
Table of Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Number				
Numeric Relationships: Students will demonstrate and represent multi-digit numbers using place value understanding.				
3.N.1.a Read, write, and demonstrate multiple equivalent representations for numbers up to 10,000 using objects or visual representations including standard form and expanded form.				
3.N.1.a Read, write, and demonstrate whole numbers 1–20 that are equivalent representations, including visual models, standard forms, and word forms.	0-2	0-4	0-2	0-4
3.N.1.b Represent and justify comparisons of whole numbers up to 10,000 using number lines and reasoning strategies.				
3.N.1.b Compare and order whole numbers 1–20 using number lines or quantities of objects.	0-2	0-4	0-2	0-4
Fractions: Students will develop understanding of fractions as numbers.				
3.N.2.a Partition two-dimensional figures into equal areas and express the area of each part as a unit fraction of the whole.				
3.N.2.a Partition two-dimensional figures (circles, triangles, rectangles, and squares) into two, three, or four equal shares, and express the area of each part as a unit fraction of the whole using $\frac{1}{2}$, $\frac{1}{3}$, or $\frac{1}{4}$.	0-2	0-4	0-2	0-4
3.N.2.b Find parts of a whole using visual fraction models.				
3.N.2.b Partition two-dimensional figures (circles, triangles, rectangles, and squares) into three, four, or five equal shares, and express the area of each part as a fraction of the whole using $\frac{2}{3}$, $\frac{3}{4}$, $\frac{2}{5}$, $\frac{3}{5}$, or $\frac{4}{5}$.	0-2	0-4	0-2	0-4
3.N.2.c Represent and understand a fraction as a number on a number line.				
3.N.2.c Represent halves and wholes on a number line.	0-2	0-4	0-2	0-4
3.N.2.e Justify whole numbers as fractions and identify fractions that are equivalent to whole numbers.				
3.N.2.e Given a model, represent a whole number (1, 2, or 3) as a fraction with a denominator of 2, 3, or 4.	0-2	0-4	0-2	0-4
3.N.2.f Compare and order fractions having the same numerators or denominators by reasoning about their size.				
3.N.2.f Use a model to compare unit fractions $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$.	0-2	0-4	0-2	0-4
Algebra				
Operations and Algebraic Thinking: Students will extend understanding of multiplication and apply operational properties to solve problems.				
3.A.1.a Add and subtract up to four-digit whole numbers with or without regrouping using strategies based on place value and algorithms.				
3.A.1.a Add and subtract without regrouping, limited to maximum sum and minuend of 20.	0-1	0-2	0-1	0-3

3.A.1.b Determine the reasonableness of whole number sums and differences using estimations and number sense.				
3.A.1.b Round one- and two-digit whole numbers to the nearest ten, and estimate two-digit sums and differences to the nearest ten.	0-1	0-2	0-1	0-3
3.A.1.c Solve and write one-step whole number equations to represent authentic problems using the four operations including equations with an unknown start, unknown change, or unknown result.				
3.A.1.c Solve one-step addition and subtraction equations using the digits 0–9, limited to equations with an unknown change or unknown result.	0-1	0-2	0-1	0-3
3.A.1.d Interpret and solve two-step authentic problems involving whole numbers and the four operations.				
3.A.1.d Solve one-step authentic addition and subtraction problems using the digits 0–9, limited to problems with an unknown change or unknown result.	0-1	0-2	0-1	0-3
3.A.1.f Use drawings, words, arrays, symbols, repeated addition, equal groups, and number lines to interpret and explain the meaning of multiplication and division and their relationship.				
3.A.1.f Identify multiplication equations, and use models (e.g., number lines, repeated addition, equal groups, arrays) to represent multiplication, limited to groups up to 20.	0-1	0-2	0-1	0-3
3.A.1.h Multiply one-digit whole numbers by multiples of 10 in the range of 10 to 90 using strategies based on place value and properties of operations.				
3.A.1.h Multiply 1 and 2 by multiples of 10 with a maximum product of 100.	0-1	0-2	0-1	0-3
Geometry				
Shapes and Their Attributes: Students will recognize and represent the attributes of two-dimensional shapes.				
3.G.1.a Sort quadrilaterals into categories according to their attributes.				
3.G.1.a Identify two-dimensional shapes, circles, triangles, rectangles, or squares.	0-1	0-2	0-1	0-3
Area and Perimeter: Students will recognize perimeter and area as attributes of plane figures and understand concepts of area measurement.				
3.G.2.a Solve authentic problems involving perimeters of polygons when given the side lengths or when given the perimeter and unknown side length(s).				
3.G.2.a Find the perimeter of a square or rectangle given the side lengths and a visual model.	0-1	0-2	0-1	0-3
3.G.2.b Use concrete and pictorial models to measure areas in square units by counting square units.				
3.G.2.b Find the area of a square or rectangle by counting whole-number unit squares.	0-1	0-2	0-1	0-3
3.G.2.c Find the area of a rectangle with whole-number side lengths by modeling with unit squares; show that area can be additive and is the same as it would be found by multiplying the side lengths.				
3.G.2.c Find the area of a square or rectangle with whole-number side lengths by counting unit squares and showing that repeated addition is the same as multiplying the side lengths.	0-1	0-2	0-1	0-3
Measurement: Students will use tools to solve measurement problems.				
3.G.3.a Identify and use the appropriate tools and units of measurement, both customary and metric, to solve authentic problems involving length, weight, mass, liquid volume, and capacity (within the same system and unit).				
3.G.3.a Identify the appropriate tool to use to solve authentic problems involving length, weight, and liquid volume.	0-1	0-2	0-1	0-3

3.G.3.b Estimate and measure length to the nearest half inch, fourth inch, and centimeter.				
3.G.3.b Measure the length of an object to the nearest inch.	0-1	0-2	0-1	0-3
Time: Students will tell time to the nearest minute and find elapsed time.				
3.G.4.a Tell and write time to the minute using both analog and digital clocks.				
3.G.4.a Tell time to the hour using both analog and digital clocks.	0-1	0-2	0-1	0-3
3.G.4.b Solve authentic problems involving addition and subtraction of time intervals and find elapsed time.				
3.G.4.b Solve authentic problems involving addition and subtraction of time intervals to find elapsed time, limited to whole- number hours.	0-1	0-2	0-1	0-3
Data				
Data Collection: Students will formulate questions to collect, organize, and represent data.				
3.D.1.a Create scaled picture graphs and scaled bar graphs to represent a data set with more than four categories, including data collected through observations, surveys, and experiments.				
3.D.1.a Identify characteristics (e.g., title, labels, key, scale, quantities, categories) on a bar graph, pictograph, and circle graph.	0-1	0-2	0-1	0-3
3.D.1.b Generate and represent data using line plots where the horizontal scale is marked off in halves and whole number units.				
3.D.1.b Identify characteristics (e.g., title, labels, horizontal axis, quantities) on a line plot.	0-1	0-2	0-1	0-3
Analyze Data and Interpret Results: Students will analyze the data and interpret the results.				
3.D.2.a Analyze data and make simple statements using information represented in picture graphs, line plots, and bar graphs.				
3.D.2.a Identify and compare quantities in pictographs and bar graphs.	0-1	0-2	0-1	0-3



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics–Grade 4

Table of Specifications

for

Students with Significant Disabilities

who take the

Statewide Alternate Assessment

Mathematics Grade 4 Alternate Assessment Table of Specifications

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Number				
Numeric Relationships: Students will demonstrate and represent multi-digit numbers using relationships with the base-ten number system.				
4.N.1.a Read, write, and demonstrate multiple equivalent representations for whole numbers up to 1,000,000 and decimals to the hundredths using visual representations, standard form, and expanded form.				
4.N.1.a Identify representations of whole numbers up to 100.	0-2	0-4	0-2	0-4
4.N.1.b Represent and justify comparisons of whole numbers up to 1,000,000 and decimals through the hundredths place using number lines and reasoning strategies.				
4.N.1.b Use symbols $<$, $>$, and $=$ to compare whole numbers up to 50.	0-2	0-4	0-2	0-4
4.N.1.d Use decimal notation for fractions with denominators of 10 or 100 (e.g., $43/100 = 0.43$).				
4.N.1.d Use decimal notation for fractions from 0 to 1 with a denominator of 10 (e.g., $2/10 = .2$), and identify those decimals on a number line from 0 to 1.	0-2	0-4	0-2	0-4
Fractions and Decimals: Students will extend understanding of fractions by equivalence and ordering and will develop an understanding of decimals.				
4.N.2.a Explain and demonstrate how a mixed number is equivalent to a fraction greater than one and how a fraction greater than one is equivalent to a mixed number using visual fraction models and reasoning strategies.				
4.N.2.a Compare and order mixed numbers with denominators up to 5.	0-2	0-4	0-2	0-4
Operations with Fractions: Students will understand and demonstrate fractional computation.				
4.N.3.c Add and subtract fractions and mixed numbers with like denominators.				
4.N.3.c Use visual models to add and subtract fractions with like denominators of halves, thirds, and fourths, limited to minuends and sums with a maximum of 1 whole.	0-2	0-4	0-2	0-4
4.N.3.d Solve authentic problems involving addition and subtraction of fractions and mixed numbers with like denominators.				
4.N.3.d Use visual models to solve authentic problems involving addition and subtraction of fractions with like denominators of halves, thirds, and fourths, limited to minuends and sums with a maximum of 1 whole.	0-2	0-4	0-2	0-4
Factors and Multiples: Students will find factors and multiples and classify numbers as prime or composite.				
4.N.4.a Determine whether a given whole number up to 100 is a multiple of a given one-digit number.				
4.N.4.a Count by 2s, 5s, and 10s with numbers, models, or objects up to 50.	0-2	0-4	0-2	0-4
4.N.4.b Determine factors of any whole number up to 100 and classify a number up to 100 as prime or composite.				
4.N.4.b Identify numbers 1–20 as odd or even, and identify the factors of 4, 6, 8, 9, 10, 12, 15, and 20.	0-2	0-4	0-2	0-4

Algebra				
Operations and Algebraic Thinking: Students will extend understanding of multiplication and division and apply operational properties to solve problems involving variables.				
4.A.1.a Add and subtract multi-digit numbers using an algorithm.				
4.A.1.a Add and subtract numbers with regrouping, limited to two-digit addends and minuends.	0-2	0-4	0-2	0-4
4.A.1.b Multiply up to a four-digit whole number by a one-digit whole number and multiply a two-digit whole number by a two-digit whole number, using strategies based on place value, properties of operations, and algorithms.				
4.A.1.b Multiply 2s, 5s, and 10s by a single-digit number with a maximum product of .	0-2	0-4	0-2	0-4
4.A.1.c Divide up to a four-digit whole number by a one-digit divisor with and without a remainder using strategies based on place value.				
4.A.1.c Identify division equations, and use models (e.g., number lines, repeated addition, equal groups, arrays) to represent division without a remainder, limited to groups up to 20.	0-2	0-4	0-2	0-4
4.A.1.d Determine the reasonableness of whole number products and quotients using estimations and number sense.				
4.A.1.d Round one- and two-digit whole numbers to estimate two-digit products.	0-2	0-4	0-2	0-4
4.A.1.e Create a simple algebraic expression or equation using a variable for an unknown number to represent an authentic mathematical situation (e.g., $3 + n = 15$, $81 \div n = 9$).				
4.A.1.e Identify an addition or subtraction equation in an authentic mathematical situation using a variable for an unknown, limited to an unknown change or unknown result (e.g., $3 + n = 10$, $12 - 6 = n$).	0-2	0-4	0-2	0-4
4.A.1.f Solve one- and two-step authentic problems using the four operations including interpreting remainders and the use of a letter to represent the unknown quantity.				
4.A.1.f Solve one-step authentic problems involving addition and subtraction and including the use of a letter to represent an unknown quantity, limited to two-digit addends and minuends.	0-2	0-4	0-2	0-4
Geometry				
Shapes and Their Attributes: Students will draw and identify lines and angles and classify shapes by properties of their lines and angles.				
4.G.1.a Identify, create, and describe points, lines, line segments, rays, angles, parallel lines, perpendicular lines, and intersecting lines.				
4.G.1.a Identify points, lines, line segments, rays, angles, parallel lines, and intersecting lines.	0-2	0-3	0-2	0-3
4.G.1.b Justify the classification of angles as acute, obtuse, or right.				
4.G.1.b Classify angles as acute, obtuse, or right.	0-2	0-3	0-2	0-3

4.G.1.c Justify the classification of two-dimensional shapes based on the presence or absence of parallel and perpendicular lines or the presence or absence of specific angles.				
4.G.1.c Classify quadrilaterals based on the presence or absence of parallel and perpendicular lines and the presence or absence of right angles.	0-2	0-3	0-2	0-3
4.G.1.d Recognize, draw, and justify lines of symmetry in two-dimensional shapes.				
4.G.1.d Identify lines of symmetry in two-dimensional shapes.	0-2	0-3	0-2	0-3
Measurement: Students will generate simple conversions from a larger unit to a smaller unit to solve authentic problems and measure angles.				
4.G.2.a Identify and use the appropriate tools, operations, and units of measurement, both customary and metric, to solve authentic problems involving time, length, weight, mass, and capacity.				
4.G.2.a Identify and use the appropriate units of measurement to solve authentic problems involving time, length, weight, and liquid volume, using customary units.	0-2	0-3	0-2	0-3
4.G.2.c Generate simple conversions from a larger unit to a smaller unit within the customary and metric systems of measurement.				
4.G.2.c Generate simple conversions from larger units to smaller units, using weeks/days, years/months, hours/minutes, or feet/inches.	0-2	0-3	0-2	0-3
4.G.2.d Measure angles in whole number degrees using a protractor and relate benchmark angle measurements to their rotation through a circle (e.g., $180^\circ = 1/2$ of a circle).				
4.G.2.d Identify benchmark angles of 90° and 180°, and relate those angle measurements to right angles, straight lines, and perpendicular lines.	0-2	0-3	0-2	0-3
Area and Perimeter: Students will apply perimeter and area formulas for rectangles.				
4.G.3.a Apply perimeter and area formulas for rectangles to solve authentic problems.				
4.G.3.a Apply perimeter formulas for rectangles to solve authentic problems.	0-2	0-3	0-2	0-3
Data				
Data Collection: Students will formulate questions to collect, organize, and represent data.				
4.D.1.a Generate and represent data using line plots where the horizontal scale is marked off in appropriate units—whole numbers, halves, fourths, or eighths.				
4.D.1.a Identify and compare quantities in line plots, limited to two data points.	0-2	0-6	0-2	0-6
Analyze Data and Interpret Results: Students will analyze the data and interpret the results.				
4.D.2.a Solve authentic problems and analyze data involving addition or subtraction of fractions presented in line plots.				
4.D.2.a Solve problems with addition or subtraction of whole numbers using information from pictographs, bar graphs, and line plots.	0-2	0-6	0-2	0-6



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics–Grade 5

Table of Specifications

for

Students with Significant Disabilities

who take the

Statewide Alternate Assessment

**Mathematics Grade 5 Alternate Assessment
Table of Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Number				
Numeric Relationships: Students will understand the place value system.				
5.N.1.a Read, write, and demonstrate multiple equivalent representations for multi-digit whole numbers and decimals through the thousandths place using standard form and expanded form.				
5.N.1.a Identify representations of whole numbers up to 200.	0-2	0-4	0-2	0-4
5.N.1.c Use whole number exponents to denote powers of 10.				
5.N.1.c Represent 10, 100, 1,000, or 10,000 as a power of 10.	0-2	0-4	0-2	0-4
Fraction and Decimals: Students will extend understanding of fraction and decimal equivalence and ordering.				
5.N.2.a Generate equivalent forms of commonly used fractions and decimals (e.g., halves, fourths, fifths, tenths).				
5.N.2.a Use models to represent equivalent fractions with denominators up to 10 (e.g., $2/4 = 1/2$, $3/3 = 1$ whole).	0-2	0-4	0-2	0-4
5.N.2.b Represent and justify comparisons of whole numbers, fractions, mixed numbers, and decimals through the thousandths place using number lines, reasoning strategies, and/or equivalence.				
5.N.2.b Use symbols $<$, $>$, and $=$ to compare and order whole numbers up to 200.	0-2	0-4	0-2	0-4
Operations with Fractions and Decimals: Students will apply and extend previous understandings of whole number operations to add, subtract, multiply, and divide fractions and decimals.				
5.N.3.b Multiply a whole number by a fraction or a fraction by a fraction, including mixed numbers, using visual fraction models and properties of operations.				
5.N.3.b Use a visual model to multiply the fractions $1/3$, $1/2$, and $1/4$ by each other and by the whole numbers 2, 3, and 4.	0-2	0-4	0-2	0-4
5.N.3.c Divide a unit fraction by a whole number and a whole number by a unit fraction using visual fraction models and properties of operations.				
5.N.3.c Use a visual model to divide a whole number by $1/3$, $1/2$, or $1/4$ (e.g., 3 divided by $1/2$).	0-2	0-4	0-2	0-4
5.N.3.d Solve authentic problems involving addition, subtraction, and multiplication of fractions and mixed numbers with like and unlike denominators.				
5.N.3.d Use a visual model to solve authentic problems involving addition, subtraction, or multiplication of fractions.	0-2	0-4	0-2	0-4
5.N.3.e Add and subtract fractions and mixed numbers with unlike denominators without simplifying.				
5.N.3.e Use a visual model to add and subtract fractions with like denominators of halves, thirds, fourths, and fifths, limited to minuends and sums with a maximum of 1 whole.	0-2	0-4	0-2	0-4
5.N.3.f Solve authentic problems involving division of fractions by whole numbers and division of whole numbers by unit fractions.				
5.N.3.f Use a visual model to solve authentic problems involving division of whole numbers by the fractions $1/3$, $1/2$, or $1/4$.	0-2	0-4	0-2	0-4

5.N.3.g Add, subtract, multiply, and divide decimals to hundredths using strategies based on place value, properties of operations, and/or algorithms.				
5.N.3.g Add and subtract two decimal numbers without regrouping, limited to 0–10 with at most one decimal place (e.g., $5.2 + 3.7$).	0-2	0-4	0-2	0-4
Algebra				
Operations and Algebraic Thinking: Students will extend understanding of division and apply operational properties to solve problems involving order of operations.				
5.A.1.a Multiply multi-digit whole numbers using an algorithm.				
5.A.1.a Multiply the numbers 1–9 by single-digit numbers and 10, and multiply two-digit numbers 11–20 by single-digit numbers 1–5.	0-2	0-4	0-2	0-4
5.A.1.b Divide four-digit whole numbers by a two-digit divisor, with and without remainders, using strategies based on place value.				
5.A.1.b Divide a two-digit whole number by a single-digit whole number, limited to quotients with no remainders.	0-2	0-4	0-2	0-4
5.A.1.c Justify the reasonableness of computations involving whole numbers, fractions, and decimals.				
5.A.1.c Estimate the sum of two decimal numbers, limited to 0–10 with at most one decimal place (e.g., $5.2 + 3.7$ is about 9).	0-2	0-4	0-2	0-4
5.A.1.d Solve authentic numerical or algebraic expressions using order of operations (excluding exponents).				
5.A.1.d Evaluate two-step numerical expressions involving addition or subtraction and multiplication using order of operations, limited to the digits 1–5 (e.g., $4 \times (5 - 2)$, $4 + 2 \times 3$).	0-2	0-4	0-2	0-4
Geometry				
Shapes and Their Attributes: Students will classify two-dimensional figures into categories based on their properties.				
5.G.1.a Identify and describe faces, edges, and vertices of rectangular prisms.				
5.G.1.a Identify the faces, edges, and vertices of cubes and other rectangular prisms.	0-2	0-4	0-2	0-4
5.G.1.b Recognize volume as an attribute of solid figures that is measured in cubic units.				
5.G.1.b Identify the difference between two-dimensional (flat) and three-dimensional (solid) figures.	0-2	0-4	0-2	0-4
5.G.1.c Justify the classification of two-dimensional figures in a hierarchy based on their properties.				
5.G.1.c Classify triangles as acute, right, or obtuse.	0-2	0-4	0-2	0-4
Coordinate Geometry: Graph points on the coordinate plane to solve authentic problems.				
5.G.2.a Identify the origin, x axis, and y axis of the coordinate plane.				
5.G.2.a Identify the origin, x-axis, and y-axis of a coordinate plane.	0-2	0-4	0-2	0-4
5.G.2.b Graph and name points in the first quadrant of the coordinate plane using ordered pairs of whole numbers.				
5.G.2.b Identify the x- or y-coordinate of a point in the first quadrant of a coordinate plane.	0-2	0-4	0-2	0-4

5.G.2.c Form ordered pairs from authentic problems involving rules or patterns and graph the ordered pairs in the first quadrant on a coordinate plane and interpret coordinate values in the context of the situation.				
5.G.2.c Graph and name points in the first quadrant of a coordinate plane using ordered pairs of whole numbers.	0-2	0-4	0-2	0-4
Measurement: Generate conversions within the customary and metric systems of measurement to solve authentic problems.				
5.G.3.a Generate conversions in authentic mathematical situations from larger units to smaller units and smaller units to larger units, within the customary and metric systems of measurement.				
5.G.3.a Generate simple conversions from larger units to smaller units and smaller units to larger units in authentic mathematical situations, limited to inches/feet, minutes/hour, and feet/yards.	0-2	0-4	0-2	0-4
Area and Volume: Students will extend area problems for rectangles to include fractions and build meaning for measuring volume.				
5.G.4.c Use concrete models to measure the volume of rectangular prisms by counting cubic units.				
5.G.4.c Use concrete and/or visual models to measure the volume of rectangular prisms by counting unit cubes.	0-2	0-4	0-2	0-4
5.G.4.d Find the volume of a rectangular prism with whole-number side lengths by modeling with unit squares and show that the volume can be additive and is the same as would be found by multiplying the area of the base times height.				
5.G.4.d Find the volume of a cube or another rectangular prism with whole-number side lengths by counting unit cubes and showing that repeated addition is the same as multiplying the side lengths (e.g., $9 + 9 + 9 = 27$ unit cubes in a $3 \times 3 \times 3$ cube).	0-2	0-4	0-2	0-4
5.G.4.e Solve authentic problems by applying the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of rectangular prisms with whole number edge lengths.				
5.G.4.e Use visual models to solve authentic problems by counting unit cubes to find the volume of rectangular prisms.	0-2	0-4	0-2	0-4
Data				
Analyze Data and Interpret Results: Students will analyze the data and interpret the results.				
5.D.2.a Represent, analyze, and solve authentic problems using information presented in one or more tables or line plots including whole numbers and fractions.				
5.D.2.a Represent data on tables, pictographs, bar graphs, and line plots.	0-3	1-6	0-3	3-6



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics–Grade 6

Table of Specifications

for

Students with Significant Disabilities

who take the

Statewide Alternate Assessment

**Mathematics Grade 6 Alternate Assessment
Table of Specifications**

	DO K Stage 2	DOK Stage 3	DO K Stage 4	Item Total
Number				
Numeric Relationships: Students will demonstrate, represent, and show relationships among fractions, decimals, percents, and integers within the base-ten number system.				
6.N.1.a Determine common factors and common multiples.				
6.N.1.a Identify the common factors of 4, 6, 8, 9, 10, 12, 15, and 20, given the factors of both numbers in an array or a multiplication sentence.	0-2	0-4	0-2	0-4
6.N.1.c Model integers using drawings, words, number lines, models and symbols.				
6.N.1.c Identify models of integers from –10 to 10 using drawings, words, manipulatives, number lines, and symbols.	0-2	0-4	0-2	0-4
6.N.1.d Determine absolute value of rational numbers.				
6.N.1.d Identify the absolute value of an integer between –10 and 10.	0-2	0-4	0-2	0-4
6.N.1.e Compare and order numbers including non-negative fractions and decimals, integers, and absolute values and locate them on the number line.				
6.N.1.e Compare and order halves with halves, quarters with quarters, and tenths with tenths from 0 to 1 on a number line and compare and order integers from –10 to 10 on a number line.	0-2	0-4	0-2	0-4
Operations: Students will compute with fractions and decimals accurately.				
6.N.2.a Divide multi-digit whole numbers and decimals using an algorithm.				
6.N.2.a Divide a two-digit number by a one-digit number with a remainder.	0-2	0-4	0-2	0-4
6.N.2.b Divide non-negative fractions and mixed numbers.				
6.N.2.b Use models to divide positive fractions with like denominators, limited to halves, fourths, thirds, and tenths.	0-2	0-4	0-2	0-4
6.N.2.c Evaluate numerical expressions including absolute value and/or positive exponents with respect to order of operations.				
6.N.2.c Evaluate numerical expressions involving addition, subtraction, and multiplication with respect to order of operations.	0-2	0-4	0-2	0-4
Ratios and Proportions				
Ratios and Rates: Students will understand the concept of ratios and unit rates, use language to describe the relationship between two quantities, and use ratios and unit rates to solve authentic situations.				
6.R.1.a Determine ratios from concrete models, drawings, and/or words.				
6.R.1.a Determine ratios from concrete models and drawings.	0-2	0-3	0-2	0-3

6.R.1.c Find a percent of a quantity as a rate per 100 and solve problems involving finding the whole, given a part and the percent.				
6.R.1.c Recognize $\frac{1}{10}$ and $\frac{1}{100}$ as ratios and convert to equivalent percents.	0-2	0-3	0-2	0-3
6.R.1.d Convert among fractions, decimals, and percents using multiple representations.				
6.R.1.d Using a model, convert halves, fourths, and tenths to decimals and identify the corresponding percentages for the fractions $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$.	0-2	0-3	0-2	0-3
6.R.1.e Solve authentic problems using ratios, unit rates, and percents.				
6.R.1.e Solve authentic problems using the ratios 1:1, 1:2, 1:3, 1:5, and 1:10.	0-2	0-3	0-2	0-3
Represent: Students will represent ratios and rates on the coordinate plane.				
6.R.2.f Plot the pair of values from a ratio table on the coordinate plane.				
6.R.2.f Identify the line on a coordinate grid that represents the values given in a ratio table.	0-2	0-3	0-2	0-3
Algebra				
Algebraic Processes: Students will apply the operational properties when evaluating expressions and solving equations and inequalities.				
6.A.1.a Recognize and generate equivalent algebraic expressions involving the distributive property and combining like terms.				
6.A.1.a Identify equivalent expressions with one variable by combining like terms, limited to digits 1–9 (e.g., $2n + 3n = 5n$).	0-2	0-4	0-2	0-4
6.A.1.b Given the value of the variable, evaluate algebraic expressions with non-negative rational numbers with respect to order of operations, which may include absolute value.				
6.A.1.b Given the positive integer value of the single variable, evaluate an addition or subtraction expression.	0-2	0-4	0-2	0-4
6.A.1.c Use substitution to determine if a given value for a variable makes an equation or inequality true.				
6.A.1.c Use substitution to determine if a given value for a variable makes an equation true.	0-2	0-4	0-2	0-4
6.A.1.d Solve one-step equations with non-negative rational numbers using addition, subtraction, multiplication, and division.				
6.A.1.d Add and subtract two decimal numbers without regrouping, limited to hundredths.	0-2	0-4	0-2	0-4
6.A.1.e Solve one-step inequalities with whole numbers using addition, subtraction, multiplication, and division and represent solutions on a number line (e.g., graph $3x > 3$).				
6.A.1.e Identify a solution to an inequality on a number line from 0 to 10, limited to whole numbers (e.g., $x < 9$, $x \geq 3$).	0-2	0-4	0-2	0-4
Applications: Students will solve authentic problems with algebraic expressions, equations, and inequalities.				
6.A.2.a Create algebraic expressions (e.g., one operation, one variable as well as multiple operations, one variable) from word phrases.				
6.A.2.a Match a simple word phrase with an input-output box.	0-2	0-4	0-2	0-4

6.A.2.b Write equations (e.g., one operation, one variable) to represent authentic situations involving non-negative rational numbers.				
6.A.2.b Solve authentic problems with addition and subtraction of decimal numbers to the hundredth, without regrouping.	0-2	0-4	0-2	0-4
6.A.2.c Write inequalities (e.g., one operation, one variable) to represent authentic situations involving whole numbers.				
6.A.2.c Identify an inequality that represents a solution to a problem involving an authentic situation (e.g., $x < 9$, $x \geq 3$).	0-2	0-4	0-2	0-4

Geometry

Attributes: Students will identify and describe geometric attributes of two- dimensional shapes.

6.G.1.a Identify and create nets to represent two-dimensional drawings of prisms and pyramids.				
6.G.1.a Use two-dimensional representations (e.g., drawings, nets) and/or three-dimensional models to identify cubes, cylinders, cones, rectangular prisms, pyramids, and spheres.	0-2	0-3	0-2	0-3
Measurement: Students identify geometric attributes that create two- and three-dimensional shapes in order to perform measurements and apply formulas to find area and volume.				
6.G.3.a Determine the area of quadrilaterals and triangles by composition and decomposition of these shapes, as well as applications of properties and formulas. Quadrilaterals include parallelograms and trapezoids.				
6.G.3.a Find the area of a rectangle using its whole-number side lengths.	0-2	0-3	0-2	0-3
6.G.3.b Determine the surface area of rectangular prisms and triangular prisms using nets as well as application of formulas.				
6.G.3.b Find the surface area of a rectangular prism by counting unit squares in a net of the figure.	0-2	0-3	0-2	0-3
6.G.3.c Apply volume formulas for triangular prisms.				
6.G.3.c Use the volume formula to determine the volume of a rectangular prism, limited to whole-number side lengths.	0-2	0-3	0-2	0-3

Data

Analyze Data and Interpret Results: Students will represent and analyze the data and interpret the results.

6.D.2.a Represent data using dot plots, box-and-whisker plots, and histograms.				
6.D.2.a Identify characteristics (e.g., title, labels, intervals, quantities) of a histogram and identify a histogram that matches a data set.	0-2	0-3	0-2	0-3
6.D.2.b Solve problems using information presented in dot plots, box-and-whisker plots, histograms, and circle graphs.				
6.D.2.b Solve problems using information presented in histograms and circle graphs, limited to halves, thirds, and fourths of a circle.	0-2	0-3	0-2	0-3
6.D.2.c Find and interpret the mean, median, mode, and range for a set of data.				
6.D.2.c Find the mode and/or range of a set of ordered whole-number data.	0-2	0-3	0-2	0-3

6.D.2.d Compare the mean, median, mode, and range from two sets of data.				
6.D.2.d Find the median of a set of ordered whole-number data.	0-2	0-3	0-2	0-3
Probability: Students will interpret and apply concepts of probability.				
6.D.3.a Identify a list of possible outcomes for a simple event.				
6.D.3.a Identify a list of possible outcomes for a simple event, limited to four possible outcomes.	0-2	0-3	0-2	0-3
6.D.3.c Express the degree of likelihood (possible, impossible, certain, more likely, equally likely, or less likely) of simple events.				
6.D.3.c Identify the probability of an event as always, sometimes, or never.	0-2	0-3	0-2	0-3



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics–Grade 7

Table of Specifications

for

Students with Significant Disabilities

who take the

Statewide Alternate Assessment

**Mathematics Grade 7 Alternate Assessment
Table of Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Number				
Operations: Students will compute with rational numbers accurately.				
7.N.2.a Add, subtract, multiply, and divide rational numbers (e.g., positive and negative fractions, decimals, and integers).				
7.N.2.a Add and subtract fractions and mixed numbers with like denominators up to 10 without regrouping.	1-2	2-4	1-2	4-8
Ratios and Proportions				
Proportional Relationships: Students will understand the concept of proportions, use language to describe the relationship between two quantities, and use proportions to solve authentic situations.				
7.R.1.a Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table).				
7.R.1.a Determine unit rate when given a table, limited to ratios of 1:2, 1:3, 1:5, and 1:10.	0-1	0-2	0-1	0-2
7.R.1.b Represent and solve authentic problems with proportions.				
7.R.1.b Given a proportional relationship that represents an authentic situation, determine the missing quantity.	0-1	0-2	0-1	0-2
7.R.1.c Use proportional relationships to solve authentic percent problems (e.g., percent change, sales tax, mark-up, discount, tip).				
7.R.1.c Identify the percentage for an authentic discount problem, limited to 10%, 25%, and 50%.	0-1	0-2	0-1	0-2
7.R.1.d Solve authentic problems involving scale drawings.				
7.R.1.d Given a scale drawing, identify the scale, limited to 1/4, 1/3, and 1/2.	0-1	0-2	0-1	0-2
Algebra				
Algebraic Processes: Students will apply the operational properties when evaluating expressions, and solving equations and inequalities.				
7.A.1.c Solve one- and two-step equations involving rational numbers.				
7.A.1.c Solve a one-step equation using multiplication.	0-2	0-4	0-2	0-4
7.A.1.d Solve equations using the distributive property and combining like terms.				
7.A.1.d Identify equivalent expressions using the distributive property, limited to digits 1–9 (e.g., $2(3 + 4) = (2 \times 3) + (2 \times 4)$).	0-2	0-4	0-2	0-4
7.A.1.e Solve one- and two-step inequalities involving integers and represents solutions on a number line.				
7.A.1.e Identify a solution to a one-step inequality involving addition, subtraction, or multiplication (e.g., $n + 1 < 4$, $2n > 8$).	0-2	0-4	0-2	0-4
Applications: Students will solve authentic problems with algebraic expressions, equations, and inequalities.				
7.A.2.a Write one- and two-step equations involving rational numbers from words, tables, and authentic situations.				
7.A.2.a Identify one-step addition, subtraction, and multiplication equations that represent authentic situations.	0-2	0-4	0-2	0-4
7.A.2.b Write one- and two-step inequalities to represent authentic situations involving integers.				
7.A.2.b Identify an inequality that represents a solution to a one-step problem involving addition, subtraction, or multiplication in an authentic situation.	0-2	0-4	0-2	0-4

Geometry				
Attributes: Students will identify angle relationships and apply properties to determine angle measures.				
7.G.1.a Apply properties of adjacent, complementary, supplementary, linear pair, and vertical angles to find missing angle measures.				
7.G.1.a Identify a pair of angles as complementary (equal to 90°) or supplementary (equal to 180°).	0-2	0-3	0-2	0-3
Coordinate Geometry: Students will determine location, orientation, and relationships on the coordinate plane.				
7.G.2.a Draw polygons in the coordinate plane given coordinates for the vertices.				
7.G.2.a Given a triangle in quadrant 1 with one vertex on the origin, identify the location of one of the other vertices.	0-2	0-3	0-2	0-3
Measurement: Students will identify geometric attributes that create two- and three-dimensional shapes in order to perform measurements and apply formulas to find area and volume.				
7.G.3.a Solve authentic problems involving perimeter and area of composite shapes made from triangles and quadrilaterals.				
7.G.3.a Solve authentic problems involving the perimeter and area of two adjoining rectangles by counting unit lengths and unit squares.	0-2	0-3	0-2	0-3
7.G.3.c Determine the area and circumference of circles both on and off the coordinate plane using 3.14 for the value of Pi.				
7.G.3.c Identify the center, radius, and diameter of a circle, and distinguish between the area of a circle and the circumference of a circle.	0-2	0-3	0-2	0-3
Data				
Data Collection and Statistical Methods: Students will formulate statistical investigative questions, collect data, and organize data.				
7.D.1.a Create an investigative question and collect data.				
7.D.1.a Collect data to answer an investigative question.	0-2	0-3	0-2	0-3
7.D.3.a Find theoretical and experimental probabilities for compound independent and dependent events.				
7.D.3.a Given an event that will sometimes happen, identify the degree of likelihood of an event as more likely, equally likely, or less likely.	0-2	0-3	0-2	0-3



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics—Grade 8

Table of Specifications

for

Students with Significant Disabilities

who take the

Statewide Alternate Assessment

**Mathematics Grade 8 Alternate Assessment
Table of Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Number				
Numeric Relationships: Students will demonstrate, represent, and show relationships among real numbers within the base-ten number system.				
8.N.1.a Determine subsets of numbers as natural, whole, integer, rational, irrational, or real based on the definitions of these sets of numbers.				
8.N.1.a Distinguish between whole numbers, fractions, and decimals (e.g., $\frac{3}{5}$, 4, 1.7).	0-2	0-4	0-2	0-4
8.N.1.b Represent numbers with positive and negative exponents and in scientific notation.				
8.N.1.b Represent numbers with the bases of 2, 3, 4, or 5 and positive exponents of 2 and 3 in expanded form (e.g., $4^3 = 4 \times 4 \times 4$).	0-2	0-4	0-2	0-4
8.N.1.d Approximate, compare, and order real numbers, both rational and irrational, and locate them on the number line.				
8.N.1.d Compare and order tenths, fifths, fourths, thirds, halves, and whole numbers 1–100 using a number line.	0-2	0-4	0-2	0-4
Operations: Students will compute with exponents and roots.				
8.N.2.a Evaluate the square roots of perfect squares less than or equal to 400 and cube roots of perfect cubes less than or equal to 125.				
8.N.2.a Identify the squares of whole numbers up to 10.	0-2	0-4	0-2	0-4
8.N.2.c Evaluate numerical expressions involving absolute value.				
8.N.2.c Determine absolute value using a model (e.g., temperature below zero).	0-2	0-4	0-2	0-4
Algebra				
Algebraic Processes: Students will apply the operational properties when evaluating expressions and solving equations.				
8.A.1.a Describe single variable equations as having one solution, no solution, or infinitely many solutions.				
8.A.1.a Identify the point of intersection (solution) for intersecting lines on a coordinate plane, limited to naming the point without determining the coordinate pair.	0-2	0-4	0-2	0-4
8.A.1.b Solve multi-step equations involving rational numbers with the same variable appearing on both sides of the equation.				
8.A.1.b Use substitution to determine if a given value for a variable makes a two-step equation true.	0-2	0-4	0-2	0-4
Applications: Students will solve authentic problems involving multi-step equations.				
8.A.2.a Write multi-step single variable equations from words, tables, and authentic situations.				
8.A.2.a Identify a two-step expression that represents an authentic situation, limited to addition, subtraction, and multiplication.	0-2	0-4	0-2	0-4
8.A.2.b Determine and describe the rate of change for given situations through the use of tables and graphs.				
8.A.2.b Given a table, determine the rate of change of a proportional relationship.	0-2	0-4	0-2	0-4

8.A.2.c Graph proportional relationships and interpret the rate of change.				
8.A.2.c Given a graph of a line through the origin and a point on the line, determine another point on the line.	0-2	0-4	0-2	0-4
Geometry				
Attributes: Students will apply properties of angle relationships in triangles and with lines to determine angle measures.				
8.G.1.a Determine and use the relationships of the interior angles of a triangle to solve for missing measures.				
8.G.1.a Identify the missing angle measure in 45-45-90 triangles and 30-60-90 triangles when given two of the angles and a drawing of the triangle.	0-2	0-4	0-2	0-4
8.G.1.b Identify and apply geometric properties of parallel lines cut by a transversal and the resulting corresponding same side interior, alternate interior, and alternate exterior angles to find missing measures.				
8.G.1.b Identify any pair of congruent angles in two intersecting lines or in two parallel lines cut by a transversal, limited to locating but not naming as vertical, corresponding, alternate interior, or alternate exterior.	0-2	0-4	0-2	0-4
Coordinate Geometry: Students will determine location, orientation, and relationships on the coordinate plane.				
8.G.2.a Perform and describe positions and orientations of shapes under single transformations including rotations in multiples of 90 degrees about the origin, translations, reflections, and dilations on and off the coordinate plane.				
8.G.2.a Identify the image of a shape or letter following a reflection.	0-2	0-4	0-2	0-4
8.G.2.b Determine if two-dimensional figures are congruent or similar.				
8.G.2.b Determine if a pair of two-dimensional figures is congruent, non-congruent, similar, or non-similar.	0-2	0-4	0-2	0-4
Measurement: Students will reason with formulas and context to determine and compare length, area, and volume.				
8.G.3.c Find the distance between any two points on the coordinate plane using the Pythagorean Theorem.				
8.G.3.c Find the distance between two points on horizontal and vertical lines on a coordinate graph, limited to the first quadrant.	0-2	0-4	0-2	0-4
8.G.3.d Determine the volume of cones, cylinders, and spheres and solve authentic problems using volumes.				
8.G.3.d Identify the cone, cylinder, and sphere with the greatest volume when given three cone-shaped containers with either the same base or the same height, three cylinder-shaped containers with either the same base or the same height, or three spheres.	0-2	0-4	0-2	0-4
Analyze Data and Interpret Results: Students will represent and analyze the data and interpret the results.				
8.D.2.c Draw an informal line of best fit based on the closeness of the data points to the line.				
8.D.2.c Determine a line of best fit based on the closeness of data points to the line.	0-2	0-3	0-2	0-3
8.D.2.d Use a linear model to make predictions and interpret the rate of change and y-intercept in context.				
8.D.2.d Use a line of best fit to make a prediction.	0-2	0-3	0-2	0-3



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics–High School

Table of Specifications

for

Students with Significant Disabilities who take

the

Statewide Alternate Assessment

**Mathematics High School Alternate Assessment
Table of Specifications**

	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Number				
Estimation and Technology: Students will use estimation strategies and technology to reason, to solve problems, and to make connections within mathematics and across disciplines.				
HS.N.1.a Select, apply, and explain the method of computation when problem solving using real numbers (e.g., models, mental computation, paper-pencil, technology).				
HS.N.1.a Identify an operation that leads to a solution in a word problem.	0-2	0-3	0-2	0-3
HS.N.1.b Determine if the context of a problem calls for an approximation or an exact value.				
HS.N.1.b Determine if the context of a problem calls for an approximation or an exact value.	0-2	0-3	0-2	0-3
HS.N.1.f Convert equivalent rates (e.g., miles per hour to feet per second).				
HS.N.1.f Use knowledge of equivalent rates to convert equivalent values with money (e.g., two dimes and a nickel is equal to one quarter).	0-2	0-3	0-2	0-3
Sets and Operations: Students will use number sets and operations to reason and to solve problems.				
HS.N.2.a Extend the properties of exponents to rational numbers.				
HS.N.2.a Rewrite a repeated multiplication problem as an exponential expression with a whole number base and a whole number exponent (e.g., $3 \times 3 \times 3 \times 3 = 3^4$).	0-2	0-3	0-2	0-3
HS.N.2.d Compute with subsets of the complex number system including imaginary, rational, irrational, integers, whole, and natural numbers.				
HS.N.2.d Add and subtract two-digit numbers with regrouping.	0-2	0-3	0-2	0-3
Algebra				
Algebraic Relationships: Students will demonstrate and represent relationships with functions.				
HS.A.1.b Analyze a relation to determine if it is a function given mapping diagrams, function notation (e.g., $f(x)=x^2$), a table, or a graph.				
HS.A.1.b Given a linear function represented with a table, identify the graph of the linear function.	0-2	0-4	0-2	0-4
HS.A.1.c Classify a function given its mapping diagram, function notation, table, or graph as a linear, quadratic, absolute value, exponential, or other function.				
HS.A.1.c Identify a linear function from a graph.	0-2	0-4	0-2	0-4
HS.A.1.d Analyze a function's domain and range to determine if it is one-to-one and has an inverse function both algebraically and graphically.				
HS.A.1.d Identify the domain and range of a function when given an input-output table.	0-2	0-4	0-2	0-4
HS.A.1.e Define, interpret, and analyze linear, quadratic, absolute value, and exponential functions using the points of interest of the functions and graphing technology.				
HS.A.1.e Given a graph of a linear function, determine the coordinate pair where $x = 0$.	0-2	0-4	0-2	0-4

Algebraic Processes: Students will apply the operational properties when evaluating rational expressions and solving linear and quadratic equations, and inequalities.				
HS.A.2.a Analyze and explain the properties used in solving equations, inequalities, systems of linear equations, systems of linear inequalities, and literal equations.				
HS.A.2.a Identify the ordered pair of the graphical solution to a system of two linear equations.	0-2	0-4	0-2	0-4
HS.A.2.b Generate expressions in equivalent forms by using algebraic properties to make different characteristics or features visible.				
HS.A.2.b Given a graph of a linear function, determine the coordinate pair where $y = 0$.	0-2	0-4	0-2	0-4
HS.A.2.d Calculate the slope (rate of change) of a line given coordinate points, a graph, or a table of values.				
HS.A.2.d Given an x-y table of values, determine if the graph of the values forms a horizontal line or a vertical line.	0-2	0-4	0-2	0-4
HS.A.2.f Given a line, write the equation of a line that is parallel or perpendicular to it.				
HS.A.2.f Distinguish between parallel, perpendicular, and intersecting lines on a coordinate grid.	0-2	0-4	0-2	0-4
Geometry				
Attributes: Students will identify and describe geometric attributes, apply properties and theorems, and create two-dimensional shapes.				
HS.G.1.b Describe symmetries of a figure in terms of rigid motions that map a figure onto itself and make inferences about symmetric figures (e.g., unknown side lengths or angle measures) in problems both with and without coordinates.				
HS.G.1.b Identify corresponding angles by position when congruent triangles and similar triangles have the same orientation.	0-2	0-4	0-2	0-4
HS.G.1.d Identify and apply right triangle relationships including converse of the Pythagorean Theorem.				
HS.G.1.d Identify the legs and the hypotenuse of a right triangle.	0-2	0-4	0-2	0-4
HS.G.1.h Compare/contrast the properties of quadrilaterals: parallelograms, rectangles, rhombi, squares, kites, trapezoids, and isosceles trapezoids.				
HS.G.1.h Identify all four-sided polygons as quadrilaterals, and distinguish between parallelograms, rectangles, squares, and kites.	0-2	0-4	0-2	0-4
HS.G.1.i Use slope and the distance formula to determine the type of quadrilateral.				
HS.G.1.i Identify the quadrilateral on the coordinate grid as a parallelogram, rectangle, square, or kite.	0-2	0-4	0-2	0-4
Indicator HS.G.1.j Identify, describe, apply, and reason through properties of central angles, inscribed angles, angles formed by intersecting chords, secants, and/or tangents to find the measures of angles related to the circle, arc lengths, and areas of sectors.				
HS.G.1.j Differentiate between a chord, radius, diameter, and arc of a circle, and identify the arc length as one-fourth, one-half, or three-fourths of the circle.	0-2	0-4	0-2	0-4

Attributes: Students will identify and describe geometric attributes, apply properties and theorems and create three-dimensional shapes.				
HS.G.2.c Determine surface area and volume of pyramids, as well as solids that are composites of pyramids, prisms, spheres, cylinders, and cones, using formulas and appropriate units.				
HS.G.2.c Find the area of one face of a rectangular prism.	0-2	0-4	0-2	0-4
Logic & Proof: Students will use geometric definitions and theorems to reason abstractly and quantitatively.				
HS.G.4.d Use coordinate geometry to prove triangles are right, acute, obtuse, isosceles, equilateral, or scalene.				
HS.G.4.d Identify isosceles, equilateral, or scalene triangles on and off a coordinate grid.	0-2	0-4	0-2	0-4
Data				
Data Collection and Statistical Methods: Students will formulate statistical investigative questions, collect data, and organize data.				
HS.D.1.a Formulate multi-variable statistical investigative questions and determine how data can be collected and analyzed to provide an answer.				
HS.D.1.a Determine more than one method to collect data to answer an investigative question.	0-2	0-3	0-2	0-3
HS.D.1.b Apply an appropriate data collection plan when collecting primary data for the statistical investigative question of interest.				
HS.D.1.b Follow a plan to collect data for an investigative question of interest.	0-2	0-3	0-2	0-3
HS.D.1.c Use appropriate technology, including spreadsheet-based logic, to organize data for analysis				
HS.D.1.c Use appropriate technology to organize data collected for an investigative question of interest.	0-2	0-3	0-2	0-3
HS.D.1.d Distinguish between surveys, observational studies, and experiments.				
HS.D.1.d Identify the difference between a survey, an experiment, and/or an observational study.	0-2	0-3	0-2	0-3
Analyze Data & Interpret Results: Students will represent and analyze the data and interpret the results.				
HS.D.2.e Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data and recognize possible associations and trends in the data.				
HS.D.2.e Interpret categorical data for two categories in a two-way frequency table.	0-2	0-3	0-2	0-3
HS.D.2.f Represent data on two quantitative variables on a scatter plot and describe how the variables are related.				
HS.D.2.f Given a scatter plot with a clear trend, determine if there is a positive or negative association.	0-2	0-3	0-2	0-3
Probability: Students will interpret and apply concepts of probability.				
HS.D.3.d Determine whether or not events are mutually exclusive (disjoint) and calculate their probabilities in either case.				
HS.D.3.d Identify a pair of mutually exclusive outcomes.	0-2	0-3	0-2	0-3

Appendix C: NSCAS-AAS Test Blueprint



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Science–Grade 5

Table of Specifications

for

Students with Significant Disabilities

who take the

Statewide Alternate Assessment

Science – Grade 5 Physical Science

SC.5.3 Structure and Properties of Matter			Access Points			
Standard / Indicator	Extension					
SC.5.3.1 Gather, analyze, and communicate evidence of structure and properties of matter.			A	B	C	
<p>SC.5.3.1.A Develop a model to describe that matter is made of particles too small to be seen.</p> <p><small>Assessment does not include the atomic-scale mechanism of evaporation and condensation or defining the unseen particles.</small></p>	<p>Participate in investigations to describe that matter is made of particles too small to see without magnification.</p>	Points	0-2	<p>Observe models or objects to describe that matter of all sizes and shapes is made of many tiny particles that can be seen only when magnified.</p>	<p>Using real-world objects, identify that the object is made of many smaller parts.</p>	<p>Given a real-world, familiar object, recognize the difference between a part of the object and the object as a whole.</p>
<p>SC.5.3.1.B Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.</p> <p><small>Assessment does not include distinguishing mass and weight.</small></p>	<p>Participate in investigations to demonstrate that heating, cooling, and mixing substances does not change their total weight.</p>	Points	0-2	<p>Use data/observation to identify that the weight of a substance before and after it is heated or cooled remains the same, and that the total weight of materials that are mixed together is equal to the weight of the individual parts of the mixture.</p>	<p>Identify that when a solid is melted, it has the same weight, and when a liquid is frozen, it has the same weight.</p>	<p>Recognize that the weight of an object is measured using a scale.</p>
<p>SC.5.3.1.C Make observations and measurements to identify materials based on their properties.</p> <p><small>Assessment does not include density or distinguishing mass and weight.</small></p>	<p>Participate in investigations to identify materials based on physical properties (color, shape, size, texture, weight, temperature) that can be observed or measured.</p>	Points	0-2	<p>Given materials, use observable/measurable physical properties to identify the materials or categorize the materials based on common properties.</p>	<p>Given a material, identify two or more physical properties of the material.</p>	<p>Given two materials with opposite physical properties, recognize the material with a specified physical property.</p>

SC.5.3.1.D Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	Participate in investigations to determine whether mixing two or more substances results in the formation of a new substance.		Compare the observable properties of two or more substances before and after they are mixed to explain whether a new substance with different properties was formed.	Identify evidence of the formation of a new substance after two or more substances are mixed.	Recognize when two or more substances have been mixed or not mixed.
	Points	0-2			

Science – Grade 5 Life Science

SC.5.8 Matter and Energy in Organisms and Ecosystems			Access Points		
Standard / Indicator	Extension		A	B	C
SC.5.8.2 Gather and analyze data to communicate understanding of matter and energy in organisms and ecosystems.					
SC.5.8.2.A Use models to describe that energy in animals' food (used for body repair, growth, and motion and to maintain body warmth) was once energy from the sun.	Explain that energy from food is used for body repair, growth, and motion and to maintain body warmth for both animals and humans.		Describe that energy from food is used by animals and humans for body repair, growth, and motion and to maintain body warmth.	Recognize that animals, including humans, eat food for energy to grow and move.	Recognize that all animals and humans need energy to survive.
	Points	0-2			
SC.5.8.2.B Support an argument that plants get the materials they need for growth chiefly from air and water.	Use evidence to support the claim that plants get materials for growth from air and water.		Use data/observation to explain that plants need air and water to live and grow.	Identify water and air as the two materials plants need to live or grow.	Given an unrelated material and water, recognize that plants need water to live.
	Points	0-2			
SC.5.8.2.C Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. <small>Assessment does not include molecular explanations or the biochemical mechanisms of photosynthesis.</small>	Use information and models to describe the flow of matter among plants and animals.		Given information about three organisms (plants, plant-eating animals, and animal-eating animals), describe the flow of matter between them.	Use a simple food chain to identify the source of food for a given organism.	Given information, recognize that animals depend on other organisms (plants or animals) for food.
	Points	0-2			

Science – Grade 5 Earth and Space Sciences

SC.5.11. Space Systems: Earth's Stars and Solar System			Access Points		
Standard / Indicator	Extension				
SC.5.11.3 Gather and analyze data to communicate understanding of space systems: Earth's stars and solar system.			A	B	C
<p>SC.5.11.3.A Support an argument that the gravitational force exerted by Earth on objects is directed down.</p> <p>Assessment does not include mathematical representation of gravitational force.</p>	Use evidence (data and observation) to support the claim that gravity pulls objects on Earth downward.		Use data/observation to describe that objects dropped from a height are pulled toward Earth by gravity.	Use observation to predict that dropped objects are pulled down due to gravity.	Identify the direction that dropped objects will fall (down/toward the ground).
	Points	0-2			
<p>SC.5.11.3.B Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.</p> <p>Assessment is limited to relative distances, not sizes, of stars. Assessment does not include other factors that affect apparent brightness (such as stellar masses, age, and stage).</p>	Use models to explain that the sun appears brighter than other stars because it is much closer to Earth.		Use models to explain that the sun appears brighter than other stars because it is much closer to Earth.	Given a model of the sun and one or more stars, identify which is brightest/closest to Earth.	Given two objects that emit light, recognize which object is brighter.
	Points	0-2			
<p>SC.5.11.3.C Represent data in graphical displays to reveal patterns of daily changes in the length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</p> <p>Assessment does not include causes of seasons.</p>	Use data to investigate patterns in the relative location of the sun, the hours of daylight, and the day-and-night cycle.		Use data and observation to describe daily patterns in the sun's location (sunrise, noon, sunset), and seasonal differences in the hours of daylight and darkness.	Identify the relative location of the sun at different times of the day and the relative length of day and night in summer and winter.	Recognize that the sun is present in the local sky during the day but is not present in the local sky at night.
	Points	0-2			

Science – Grade 5 Earth and Space Sciences

SC.5.13. Earth's Systems		Access Points		
Standard / Indicator	Extension			
SC.5.13.4 Gather and analyze data to communicate understanding of Earth's systems.		A	B	C
<p>SC.5.13.4.A Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</p> <p>Assessment is limited to the interactions of two systems at a time.</p>	<p>Use models of natural Earth processes to identify ways that two systems (geosphere [land], biosphere [organisms], hydrosphere [water], atmosphere [air]) interact, resulting in observable changes.</p>	Given a model of a natural Earth process, identify which two systems interact and one or more changes that are likely to occur.	Given a picture or model of an Earth system, identify one or more parts of that system.	Given a picture or model of an Earth system and two possible parts of that system, recognize a part of the system.
	Points 0-2			
<p>SC.5.13.4.B Describe and graph the amounts of saltwater and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</p> <p>Assessment is limited to oceans, lakes, rivers, glaciers, groundwater, and polar ice caps but does not include the atmosphere.</p>	<p>Use graphs or charts to describe that most water on Earth is saltwater (about 97%) and is found in oceans, while fresh water (about 3%) is found in lakes, rivers, groundwater, and glaciers/ice.</p>	Given a graph or chart, identify which type of water, saltwater or fresh water, is more abundant, and where each type of water is usually found (oceans vs. lakes, rivers, groundwater, glaciers/ice).	Given the location of a body of water (ocean, river, lake), identify whether it contains saltwater or fresh water.	Given a sample or picture of water and two other objects, recognize water.
	Points 0-2			
<p>SC.5.13.4.C Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</p>	<p>Use information about Earth's resources, the environments in which they are found, and ways that resources and environments can be protected or conserved.</p>	Use information about Earth's resources in the student's environment to identify one or more ways that a resource or its source can be conserved (reduce, reuse, recycle).	Given an Earth resource used by the student (e.g., water, electricity, paper, fossil fuels), identify one way to conserve it.	Recognize that Earth resources in the student's environment (e.g., water, metal, wood) are limited.
	Points 0-2			

<p>SC.5.13.4.E Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p>	<p>Given a simple and relevant problem or need within the student's community, participate in designing a solution that meets specified criteria and constraints on materials, time, or cost.</p>		<p>Given a simple, relevant problem or need with one or more criteria and constraints, identify tools and/or materials that could be used to design a solution.</p>	<p>Given a common tool or material within the student's environment, identify ways that it can be used to solve a problem.</p>	<p>Given a simple scenario, recognize the function or use of a tool or material.</p>
	<p>Points</p>	<p>0-2</p>			

NSCAS-AAS POINTS* PER CONTENT DOMAIN

Grade	Number of Points	Physical Science Points	Life Science Points	Earth and Space Sciences Points
5	25	6-10	6-10	8-12
8	25	8-12	8-12	6-10
HS	28	8-14	10-14	8-14

*Point ranges reflect the number of items within each domain and represent targets, not restrictive limits. TOS must be used during the operational form build for tracking. The goal is to include a minimum of 6 points per reporting category and add the remaining items as appropriate for the grade that meets psychometric guidelines.



Nebraska Student-Centered Assessment System (NSCAS) *Alternate Assessment*

Science–Grade 8
Table of Specifications
for
Students with Significant Disabilities
who take the
Statewide *Alternate Assessment*

Science – Grade 8 Physical Science

SC.8.1 Forces and Interactions			Access Points		
Standard / Indicator	Extension				
SC.8.1.1 Gather, analyze, and communicate evidence of forces and interactions.			A	B	C
<p>SC.8.1.1.A Apply Newton’s Third Law to design a solution to a problem involving the motion of two colliding objects.</p> <p>Assessment is limited to vertical or horizontal interactions in one dimension.</p>	<p>Participate in investigations to describe the cause-and-effect relationship between two colliding objects.</p>		<p>Participate in guided investigations to describe the relative motions (direction and speed) of two colliding objects.</p>	<p>Identify that the speed and/or direction of one object changes when two objects collide.</p>	<p>Recognize that an object changes direction or speed when a moving object and a stationary object collide.</p>
	Points	0-2			
<p>SC.8.1.1.C Plan an investigation to provide evidence that the change in an object’s motion depends on the sum of the forces on the object and the mass of the object.</p> <p>Assessment is limited to forces and changes in motion in one-dimension in an inertial reference frame and to change in one variable at a time; does not include use of trigonometry.</p>	<p>Participate in investigations to explain that a change in the motion of a stationary object depends on the amount of force applied to the object and the mass of the object.</p>		<p>Participate in a guided investigation to explain that an object with a large mass requires more force to move than an object with a smaller mass.</p>	<p>Identify which object requires the least or most force to make it move when given objects of three different masses (small, medium, large).</p>	<p>Recognize there is a difference in force to move a small object versus a large object.</p>
	Points	0-2			
<p>SC.8.1.1.D Ask questions about data to determine the factors that affect the strength of electrical and magnetic forces.</p> <p>Assessment about questions that require quantitative answers is limited to proportional reasoning and algebraic thinking.</p>	<p>Participate in investigations to describe factors that affect the attraction and/or repulsion of a magnetic or static electric force on an object across a distance.</p>		<p>Participate in a guided investigation to describe how the pull or push of a magnetic or static electric force can be affected by the strength of the magnet or charge, the type of charge (positive/negative), or the distance between an object and the source of the attraction or repulsion.</p>	<p>Use a model to identify that changing the distance between the source of a magnetic or static electric force and an object affects the strength of the pull or push.</p>	<p>Recognize that magnets pull on magnetic objects.</p>
	Points	0-2			

<p>SC.8.1.1.E Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.</p> <p>Assessment does not include Newton's Law of Gravitation or Kepler's Laws.</p>	<p>Use evidence to support the claim that each object on Earth is affected by the force of gravity and that the strength of the force is dependent on the object's mass.</p>		<p>Use evidence to explain that each object on Earth is pulled toward the ground by the force of gravity and that the strength of the pull is dependent on the object's mass.</p>	<p>Identify which of two objects with different masses experiences a stronger pull from gravity.</p>	<p>Recognize that dropped objects fall down/toward the ground.</p>
	<p>Points</p>	<p>0-2</p>			

Science – Grade 8 Physical Science

SC.8.2 Waves and Electromagnetic Radiation			Access Points		
Standard / Indicator	Extension		A	B	C
<p>SC.8.2.2 Gather, analyze, and communicate evidence of waves and electromagnetic radiation.</p>					
<p>SC.8.2.2.A Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.</p> <p>Assessment does not include electromagnetic waves and is limited to standard repeating waves.</p>	<p>Use models to investigate the relationship between the amplitude of waves and the amount of energy in waves.</p>		<p>Use models to describe the relationship between the amplitude of waves and the energy of waves.</p>	<p>When given the amplitude of two or more waves, identify the wave that is the largest or has the most energy.</p>	<p>Recognize a wave.</p>
	<p>Points</p>	<p>0-2</p>			
<p>SC.8.2.2.B Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.</p> <p>Assessment is limited to qualitative applications pertaining to light and mechanical waves.</p>	<p>Participate in investigations to identify when sound or light waves are reflected, absorbed, or transmitted through different materials.</p>		<p>Participate in a guided investigation to identify whether sound or light waves are reflected, absorbed, or transmitted through different materials.</p>	<p>When given an object or material, identify whether a sound or light wave is transmitted through or reflected by the object or material.</p>	<p>Recognize when light or sound passes through a material.</p>
	<p>Points</p>	<p>0-2</p>			

<p>SC.8.2.2.C Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.</p> <p>Assessment does not include binary counting. Assessment does not include the specific mechanism of any given device.</p>	<p>Use evidence to support the claim that information can be sent from one place to another using digital or analog signals (waves).</p>		<p>Use evidence to explain that waves (analog or digital signals) can be used to send information across a distance.</p>	<p>Identify familiar forms of analog or digital communication used to send information across a distance.</p>	<p>Recognize a communication device.</p>
	<p>Points</p>	<p>0-2</p>			

Science – Grade 8 Physical Science

SC.8.4 Energy		Access Points		
Standard / Indicator	Extension	A	B	C
SC.8.4.3 Gather, analyze, and communicate evidence of energy.				
<p>SC.8.4.3.A Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.</p>	<p>Use data to describe the relationships between kinetic (motion) energy and the mass and speed of an object.</p>		<p>Use data to identify that an object traveling at a greater speed will have more kinetic energy than an object with the same mass traveling at a slower speed.</p> <p>Use data to identify that an object with a greater mass will have more kinetic energy than an object with less mass that is traveling at the same speed.</p>	<p>Recognize that an object with greater mass or greater speed has more kinetic energy.</p>
	<p>Points</p>	<p>0-2</p>		

<p>SC.8.4.3.B Develop a model to describe that when the arrangement of objects interacting at a distance changes, then different amounts of potential energy are stored in the system.</p> <p>Assessment is limited to two objects and electric, magnetic, and gravitational interactions.</p>	Use data to describe the relationship between potential (stored) energy and the height of an object.		Use data to describe that the amount of potential (stored) energy in a stationary object increases with increasing height and decreases with decreasing height.	Use data to identify which object has more or less potential energy based on its distance from the bottom of a surface.	Recognize that an object has greater potential energy at a greater height.
	Points	0-2			

Science – Grade 8 Life Science

SC.8.9 Heredity: Inheritance and Variation of Traits		Access Points			
Standard / Indicator	Extension	A	B	C	
SC.8.9.4 Gather, analyze, and communicate evidence of the inheritance and variation of traits.					
<p>SC.8.9.4.A Develop and use a model to describe why structural changes to genes (mutations) may result in harmful, beneficial, or neutral effects to structure and function of organisms.</p> <p>Assessment does not include specific changes at the molecular level, mechanisms for protein synthesis, or specific types of mutations.</p>	Use models to observe that changes in the physical traits of organisms of the same species (caused by genetic mutation) may or may not affect their ability to survive.		Use models to identify changes in the physical traits of individuals of the same species and describe how changes may affect an organism's ability to survive or not.	Using a model of a typical organism and a changed organism of the same species; identify the physical trait that changed or whether the change is helpful or harmful.	Recognize the changed organism when given a model of a typical organism and a changed organism of the same species.
	Points	0-2			
<p>SC.8.9.4.B Gather and synthesize information about technologies that have changed the way humans influence inheritance of desired traits in organisms.</p>	Use information to describe ways that humans have influenced the physical traits of plants and animals.		Describe physical traits that may be desirable or undesirable and identify a way humans select that trait for future generations of offspring.	Identify which individual would most likely produce offspring with a given desired trait.	Recognize an organism that has a trait that fits a given need.
	Points	0-2			

Science – Grade 8 Life Science

SC.8.10 Natural Selection and Adaptations			Access Points		
Standard / Indicator	Extension		A	B	C
SC.8.10.5 Gather, analyze, and communicate evidence of natural selection and adaptations.					
SC.8.10.5.A Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past. <small>Assessment does not include the names of individual species or geological eras in the fossil record.</small>	Use data and evidence in Earth’s fossil record (fossils found in rock or ice layers) to investigate changes in Earth’s environments and life forms over time.		Use evidence of the fossil record (types of organisms) to identify that different environments and organisms existed at a given location over time.	Identify one or more fossils that would be found in an environment, or given one or more fossils, identify an environment in which the fossil or fossils could be found.	Recognize a fossil in its environment.
	Points	0-2			
SC.8.10.5.B Apply scientific ideas to construct an explanation for the anatomical similarities and differences among and between modern and fossil organisms to infer evolutionary relationships.	Use models and information about the physical traits of fossilized organisms and modern organisms to investigate the evolutionary relationships between organisms.		Describe one or more similarities or differences that show modern organisms are related to or unrelated to fossilized organisms.	Identify a physical trait of a modern organism that is most similar to a fossilized organism.	Recognize an organism that could have formed a given fossil.
	Points	0-2			

<p>SC.8.10.5.C Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.</p>	<p>Use evidence to identify physical traits of organisms that help them survive and reproduce in a specific environment.</p>	<p>Identify one or more physical traits of an organism or organisms that will be helpful or harmful to the survival and/or reproduction of the organism or organisms in a specific environment.</p>	<p>Identify one or more physical traits that would help organisms survive and reproduce in a specific environment.</p>	<p>Recognize the organism that would best survive in a specific environment.</p>
<p>SC.8.10.5.D Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time. Assessment does not include Hardy Weinberg calculations.</p>	<p>Use data to explain that individual organisms with a beneficial physical trait are better able to survive and reproduce than individuals without the trait, which increases the number of individuals with that trait.</p>	<p>Use data to determine whether the number of individuals with or without a specific physical trait will increase or decrease within a population over time.</p>	<p>Identify that the number of individuals with a beneficial physical trait will increase within a population over time.</p>	<p>Recognize whether a given organism has a specific physical trait.</p>
	<p>Points</p>	<p>0-2</p>		
	<p>Points</p>	<p>0-2</p>		

Science – Grade 8 Earth and Space Sciences

SC.8.11 Space Systems		Access Points		
Standard / Indicator	Extension			
SC.8.11.6 Gather, analyze, and communicate evidence of the interactions among bodies in space.		A	B	C
<p>SC.8.11.6.A Develop and use a model of the Earth- sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.</p>	<p>Use models of the Earth-sun-moon system to investigate cycles that cause observable monthly lunar patterns and yearly seasonal patterns on Earth.</p>	<p>Use models of the Earth-sun-moon system to observe and describe the cycles that cause the illumination of the moon (new, quarter, half, full), and the seasons (winter, spring, summer, autumn) on Earth.</p>	<p>Identify moon phases (new, half, full) or seasons (winter, spring, summer, autumn) and recognize that they occur in a recurring pattern.</p>	<p>Recognize the moon when it is lit by the sun, or recognize summer and winter as recurring seasons.</p>
	Points			
<p>SC.8.11.6.B Develop and use a model to describe the role of gravity in the motions within the galaxy and the solar system.</p> <p>Assessment does not include Kepler's Laws of orbital motion or the apparent retrograde motion of planets as viewed from Earth.</p>	<p>Use simple models of the solar system to investigate the motion of the moon around Earth and Earth around the sun due to the pull of gravity.</p>	<p>Use models of the sun, Earth, and the moon to describe that these bodies are kept in predictable orbits by the pull of gravity.</p>	<p>Use a model to identify the sun, Earth, and the moon as parts of the solar system or that they orbit together.</p>	<p>Recognize the sun or Earth as parts of the solar system.</p>
	Points			
<p>SC.8.11.6.C Analyze and interpret data to determine scale properties of objects in the solar system.</p> <p>Assessment does not include recalling facts about properties of the planets and other solar system bodies.</p>	<p>Use scaled models to compare and describe the size of the sun, planets, and moons in the solar system.</p>	<p>Use scaled models to compare and describe the sizes of the sun, Earth, and the moon.</p>	<p>Use scaled objects or pictures representing the sun, Earth, and the moon to identify which is largest or smallest.</p>	<p>Recognize which of two objects in the Earth-sun-moon system is larger.</p>
	Points			

Science – Grade 8 Earth and Space Sciences

SC.8.14 History of Earth		Access Points				
Standard / Indicator	Extension	A	B	C		
SC.8.14.7 Gather, analyze, and communicate evidence to explain Earth's history.						
<p>SC.8.14.7.A Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.</p> <p>Assessment does not include recalling the names of specific periods or epochs and events within them.</p>	<p>Participate in making or using models of Earth's rock strata to explain that rock layers are very old and that their age is relative to their position within rock strata.</p>	<p>Participate in making or using models to explain that Earth's surface is made of rock layers that are very old and that older rock layers are found below younger rock layers.</p>	<p>Identify which layers are the oldest and the youngest when using a model of rock strata with more than two layers.</p>	<p>Recognize the bottom layer as older when using a model of rock strata with two distinct layers.</p>		
	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">Points</td> <td style="text-align: center;">0-2</td> </tr> </table>	Points	0-2			
Points	0-2					

NSCAS-AAS POINTS* PER CONTENT DOMAIN

Grade	Number of Points	Physical Science Points	Life Science Points	Earth and Space Sciences Points
5	25	6-10	6-10	8-12
8	25	8-12	8-12	6-10
HS	28	8-14	10-14	8-14

*Point ranges reflect the number of items within each domain and represent targets, not restrictive limits. TOS must be used during the operational form build for tracking. The goal is to include a minimum of 6 points per reporting category and add the remaining items as appropriate for the grade that meets psychometric guidelines.



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Science–High School
Table of Specifications
for
Students with Significant Disabilities
who take the
Statewide Alternate Assessment

Science – Grade 11 Physical Science

SC.HS.1 Forces and Interactions		Access Points		
Standard / Indicator	Extension	A	B	C
SC.HS.1.1 Gather, analyze, and communicate evidence of forces and interactions.		A	B	C
<p>SC.HS.1.1.A Analyze data to support the claim that Newton's Second Law of Motion describes <u>the mathematical relationship among</u> the net force on a macroscopic object, its mass, and its acceleration.</p> <p>Assessment is limited to one dimensional motion and to macroscopic objects moving at non- relativistic speeds.</p>	Use observations to identify the relationship of mass and speed to produce the force of an object.	Use observations to identify the relationship of mass and speed to produce the force of an object.	Identify that mass or force influence speed.	Recognize that an object with a large mass is more difficult to move than an object with a smaller mass.
	Points			
<p>SC.HS.1.1.B Use mathematical representations to support the claim that the <u>total momentum of a system of objects</u> is conserved when there is no net force on the system.</p> <p>Assessment is limited to systems of two macroscopic bodies moving in one dimension.</p>	Use a model to determine the result of two objects colliding.	Describe the result of two objects with the same mass or with the same speed colliding.	Identify the result of two objects with the same mass but different speeds colliding.	Recognize the result of two objects with the same speed but different masses colliding.
	Points			

<p>SC.HS.1.1.C Apply science and engineering ideas to design, evaluate, and refine a device that <u>minimizes the force</u> on a macroscopic object during a collision.</p> <p>Assessment is limited to qualitative evaluations and/or algebraic manipulations.</p>	<p>Evaluate a design that minimizes a force of an object during a collision.</p>		<p>Use evidence to explain why a design minimizes the force of an object during a collision.</p>	<p>Identify the design that would minimize the force of an object during a collision.</p>	<p>Given the results, recognize the design that minimized the force of an object during a collision.</p>
	<p>Points</p>	<p>0-2</p>			

Science – Grade 11 Physical Science

SC.HS.3 Structure and Properties of Matter			Access Points		
Standard / Indicator	Extension				
SC.HS.3.3 Gather, analyze, and communicate evidence of the structure, properties, and interactions of matter.			A	B	C
<p>SC.HS.3.3.B Plan and conduct an investigation to gather evidence to <u>compare the structure</u> of substances at the macro scale to infer the strength of electrical forces between particles. Assessment does not include Raoult's law calculations of vapor pressure.</p>	<p>Use models to compare the spacing of particles in solids, liquids, and gases.</p>		<p>Use a model to determine whether the spacing of particles represents a solid, liquid, or gas.</p>	<p>Identify the relationship between the spacing of particles in a solid or liquid.</p>	<p>Recognize that objects are made of particles.</p>
	Points	0-2			
<p>SC.HS.3.3.D Communicate scientific and technical information about why the molecular-level structure is <u>important in the functioning of designed materials</u>. Assessment is limited to provided molecular structures of specific designed materials.</p>	<p>Identify the differences between metals and nonmetals in allowing heat and energy to pass through.</p>		<p>Identify the differences between metals and nonmetals (e.g., fabric, wood, plastic) in allowing heat and energy to pass through.</p>	<p>Recognize that metals allow heat or electricity to pass through.</p>	<p>Recognize a metal from a nonmetal.</p>
	Points	0-2			

Science – Grade 11 Physical Science

SC.HS.4 Energy		Access Points		
Standard / Indicator	Extension			
SC.HS.4.4 Gather, analyze, and communicate evidence of the interactions of energy.		A	B	C
<p>SC.HS.4.4.A Create a computational model to <u>calculate the change</u> in the energy of one component in a system when the change in energy of the other component(s) and energy flows <u>in and out of the system</u> are known.</p> <p>Assessment is limited to basic algebraic expressions or computations; to systems of two or three components; and to thermal energy, kinetic energy, and/or the energies in gravitational, magnetic, or electric fields.</p>	Energy can be converted into heat, light, or sound.	Predict whether electrical energy will be converted into heat, light, or sound energy.	Identify examples of electrical energy being converted into heat and/or light energy.	Recognize the evidence that electrical energy was transferred (e.g., light is coming from a bulb, a pan is warm).
	Points			
<p>SC.HS.4.4.E Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined <u>within a closed system results in a more uniform energy distribution among the components in the system</u> (second law of thermodynamics).</p> <p>Assessment is limited to investigations based on materials and tools provided to students.</p>	Evaluate appropriate methods and/or tools to use in a thermal energy investigation.	Using evidence, explain which object (e.g., thermos, lunch box, paper bag) retains thermal energy for a fixed amount of time.	Identify the tool used to measure a change in thermal energy.	Recognize a tool used to measure thermal energy.
	Points			

Science – Grade 11 Physical Science

SC.HS.5 Chemical Reactions			Access Points		
Standard / Indicator	Extension				
			A	B	C
SC.HS.5.5 Gather, analyze, and communicate evidence of chemical reactions.					
<p>SC.HS.5.5.C Apply scientific principles and evidence to provide an explanation about the <u>effects of changing the temperature or concentration</u> of the reacting particles on the rate at which a reaction occurs.</p> <p>Assessment is limited to simple reactions in which there are only two reactants; evidence from temperature, concentration, and rate data; and qualitative relationships between rate and temperature.</p>	Describe that a change in a reactant affects the rate at which the reaction occurs.		Identify that changing temperature affects the rate of a reaction.	Identify that an increase in temperature results in a faster reaction (e.g., soak one glow stick in warm water and one glow stick in cold water and then snap the glow sticks and observe the brightness).	Recognize a chemical reaction (e.g., fizzing antacid tablet in water).
	Points	0-2			
<p>SC.HS.5.5.D Refine the design of a chemical system <u>by specifying a change in conditions</u> that would produce increased amounts of products <u>at equilibrium</u>.</p> <p>Assessment is limited to specifying the change in only one variable at a time. Assessment does not include calculating equilibrium constants and concentrations.</p>	Evaluate how changes in the amount of reactants result in an increased amount of product.		Distinguish between multiple models and identify which model results in the greatest amount of product.	Identify that an increase in reactants results in an increase in product.	Recognize an increase in a product.
	Points	0-2			
<p>SC.HS.5.5.E Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p>	Evaluate an applicable life skill task that requires a solution.		Identify up to three steps, in the correct order, to solve a problem.	Identify one step to solve a problem.	Recognize that a problem exists.
	Points	0-2			

SC.HS.5.5.F Use mathematical representations to support the claim that <u>atoms, and therefore mass</u> , are conserved during a chemical reaction. Assessment does not include complex chemical reactions.	Use models to determine that weight does not change during a chemical reaction.		Using numerical data in a graph, identify whether there was a change in weight during a chemical reaction.	Recognize that weight does not change in a chemical reaction.	Recognize that matter has weight.
	Points	0-2			

Science – Grade 11 Life Sciences

SC.HS.6 Structure and Function		Access Points		
Standard / Indicator	Extension	A	B	C
SC.HS.6.1 Gather, analyze, and communicate evidence of the relationship between structure and function in living things.				
SC.HS.6.1.B Develop and use a model to illustrate the hierarchical organization of <u>interacting systems</u> that provide specific functions within multicellular organisms. Assessment does not include interactions and functions at the molecular or chemical reaction level.	Use a model to identify different organs in the human body and describe how they work to support bodily functions. (Assessment Boundary: Limited to either circulatory, respiratory, or digestive systems.)	Identify an organ system and its functions.	Recognize an organ system.	Recognize major human organs.
	Points	0-2		
SC.HS.6.1.C Plan and conduct an investigation to provide evidence that <u>feedback mechanisms maintain homeostasis</u> . Assessment does not include the cellular processes involved in the feedback mechanism.	Provide evidence about how an organism will respond when exposed to changing conditions.	Provide evidence about how an organism will respond to changes in its environment (e.g., changes in temperature, varying water levels).	Identify that organisms change in response to their environment.	Recognize that organisms need water when they feel thirsty and food when they feel hungry.
	Points	0-2		

SC.HS.6.1.D Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms. Assessment does not include specific gene control mechanisms or rote memorization of the steps of mitosis.	Use a model to explain that the human body is made of many types of cells and that cells divide.		Use a model to explain why cells divide (e.g., to replace dead or damaged cells, to grow, to produce different cell types).	Identify that cells divide through a process.	Recognize that the body is made of cells.
	Points	0-2			

Science – Grade 11 Life Sciences

SC.HS.7 Interdependent Relationships in Ecosystems			Access Points		
Standard / Indicator	Extension		A	B	C
SC.HS.7.2 Gather, analyze, and communicate evidence of interdependent relationships in ecosystems.					
SC.HS.7.2.C Evaluate the claims, evidence, and reasoning that the <u>interactions in ecosystems maintain relatively consistent</u> numbers and types of organisms in <u>stable conditions, but changing conditions</u> may result in a new ecosystem.	Evaluate a claim about living or nonliving factors in an environment and how those factors affect a population.		Predict how an environmental change will influence a population.	Recognize that changes in an environment will cause changes in the number of organisms (plants or animals) in an environment.	Recognize that, to survive, plants and animals need specific factors in an environment.
	Points	0-2			
SC.HS.7.2.D Evaluate the evidence for <u>the role of</u> group behavior on individual and species' chances to survive and reproduce.	Describe how individual and group behaviors in species impact the chances for survival and reproduction.		Use evidence to describe how individual and group behaviors affect survival and reproduction.	Recognize individual and group behaviors that help with survival and reproduction.	Recognize individual behaviors that ensure survival and reproduction.
	Points	0-2			

Science – Grade 11 Life Sciences

SC.HS.8 Matter and Energy in Organisms and Ecosystems			Access Points		
Standard / Indicator	Extension				
SC.HS.8.3 Gather, analyze, and communicate evidence of the flow of energy and cycling of matter in organisms and ecosystems.			A	B	C
<p>SC.HS.8.3.A Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.</p> <p>Assessment does not include specific biochemical steps.</p>	<p>Use a model to explain how plants change light energy into chemical energy.</p> <p>Assessment does not include the word photosynthesis.</p>		<p>Use a model to explain how plants change light energy into chemical energy.</p>	<p>Recognize that water, sunlight, and carbon dioxide are used by plants to make food and to grow.</p>	<p>Recognize that plants use the sun to make food.</p>
	Points	0-2			
<p>SC.HS.8.3.C Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules are broken and bonds in new compounds are formed resulting in a net transfer of energy.</p> <p>Assessment should not include identification of the steps or specific processes involved in cellular respiration.</p>	<p>Use a model to explain that different types of food can be used to produce energy for survival.</p> <p>Note: This does not include the cellular level.</p>		<p>Use a model to explain that different types of foods can be used to produce energy for survival.</p> <p>(Students are not expected to know the molecular structures of sugars, fats, and proteins.)</p>	<p>Recognize that when living things eat, food is broken down and energy is produced.</p>	<p>Recognize that living things need food for survival.</p>
	Points	0-2			
<p>SC.HS.8.3.D Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.</p> <p>Assessment does not include the specific chemical processes of either aerobic or anaerobic respiration.</p>	<p>Use models to show the cycling of matter among organisms within an ecosystem.</p>		<p>Use a model to complete a food chain.</p>	<p>Identify the correct order of a simple food chain.</p>	<p>Recognize the correct order in a simple food chain (from producer to consumer).</p>
	Points	0-2			

Science – Grade 11 Life Sciences

SC.HS.9 Heredity: Inheritance and Variation of Traits			Access Points		
Standard / Indicator	Extension		A	B	C
SC.HS.9.4 Gather, analyze, and communicate evidence of the inheritance and variation of traits.					
<p>SC.HS.9.4.A. Develop and use a model to explain the relationships between the <u>role of DNA and chromosomes in coding the instructions</u> for characteristic traits passed from parents to offspring.</p> <p>Assessment does not include the phases of meiosis or the molecular mechanism of specific steps in the process.</p>	Construct an explanation of how some traits are inherited and some are acquired.		Construct an explanation of how some traits are inherited and some are acquired.	Recognize traits acquired from the environment.	Recognize inherited traits.
	Points	0-2			

Science – Grade 11 Life Sciences

SC.HS.10 Biological Evolution		Access Points		
Standard / Indicator	Extension			
SC.HS.10.5 Gather, analyze, and communicate evidence of biological evolution.		A	B	C
<p>SC.HS.10.5.B Construct an explanation based on evidence that natural selection <u>primarily results from</u> four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment. Assessment does not include other mechanisms of evolution, such as genetic drift, gene flow through migration, and co-evolution.</p>	<p>Demonstrate how a population can adapt or change to survive when the environment changes.</p>	<p>Demonstrate how a population can adapt or change to survive when the environment changes.</p>	<p>Given an animal and an environment, identify the traits of that animal that make it best suited for that environment.</p>	<p>Match an animal to its most suitable environment.</p>
	Points			
<p>SC.HS.10.5.E Evaluate the evidence supporting claims that <u>changes</u> in environmental conditions <u>may result in</u>: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.</p>	<p>Use evidence to support a claim of how a change in the environment can cause a change in a population.</p>	<p>Identify environmental conditions that increase or decrease populations in an environment.</p>	<p>Identify conditions that would decrease populations in an environment.</p>	<p>Recognize a healthy population in an environment.</p>
	Points			

Science – Grade 11 Earth and Space Sciences

SC.HS.11 Space Systems		Access Points		
Standard / Indicator	Extension			
SC.HS.11.1. Gather, analyze, and communicate evidence to defend that the universe changes over time.		A	B	C
<p>SC.HS.11.1.A Develop a model based on evidence to illustrate the <u>stages</u> of stars, like the sun, and the role of nuclear fusion in the sun’s core to <u>release energy</u> that eventually reaches Earth in the form of radiation. Assessment does not include details of the atomic and sub-atomic processes involved with the sun’s nuclear fusion.</p>	<p>Construct an explanation to describe that the sun is a star and energy from the sun reaches Earth.</p>	<p>Given a model, explain that energy from the sun (a star) reaches Earth in the form of heat and light.</p>	<p>Recognize that light and heat are forms of energy from the sun (a star) that reach Earth.</p>	<p>Recognize that the sun is a star and its light or heat reaches Earth.</p>
	Points			
<p>SC.HS.11.1.D Use mathematical or computational representations to predict the motion of orbiting objects in the solar system. Mathematical representations for the gravitational attraction of bodies and Kepler’s Laws of orbital motions should not deal with more than two bodies, nor involve calculus.</p>	<p>Use a model to predict the motion of orbiting objects in the solar system.</p>	<p>Recognize that objects in the solar system (e.g., planets, moons, satellites) orbit in predictable patterns.</p>	<p>Recognize that moons orbit planets in patterns while planets orbit the sun in patterns.</p>	<p>Recognize that planets orbit the sun.</p>
	Points			

Science – Grade 11 Earth and Space Sciences

SC.HS.12 Weather and Climate			Access Points		
Standard / Indicator	Extension				
SC.HS.12.2 Gather, analyze, and communicate evidence to support that Earth's climate and weather are influenced by energy flow through Earth systems.			A	B	C
SC.HS.12.2.B Use a model to describe how variations in the flow of energy into and out of Earth's systems <u>result in</u> changes in climate. Assessment of the results of changes in climate is limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.	Use a model to describe differences in energy and climate on Earth.		Explain that while Earth orbits around the sun, Earth's tilt/position impacts energy differences between the poles and the equator, producing different climates.	Identify that Earth's position impacts energy differences between the poles and the equator, producing different climates.	Recognize that the sun's energy is different at the poles and at the equator, producing different climates.
	Points	0-2			
SC.HS.12.2.C Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the <u>current rate and scale</u> of global or regional climate changes.	Interpret simple graphs or illustrations to identify trends in global climate over time.		Given graphs or illustrations, identify the patterns of global temperatures and pollution to explain trends.	Given graphs or illustrations, identify the patterns of global temperatures and pollution.	Given a graph or an illustration, recognize the pattern of global temperature.
	Points	0-2			

Science – Grade 11 Earth and Space Sciences

SC.HS.13 Earth's Systems		Access Points		
Standard / Indicator	Extension	A	B	C
SC.HS.13.3 Gather, analyze, and communicate evidence to defend the position that Earth's systems are interconnected and impact one another.				
SC.HS.13.3.A Analyze geoscience data to make the claim that one change to Earth's surface can <u>create feedbacks</u> that cause changes to other Earth systems.	Explain that atmospheric changes cause changes to Earth's surface. (temperature, water, and wind)	Explain that atmospheric changes cause changes to Earth's surface. (temperature, water and wind)	Recognize that water and wind change the surface of Earth over time.	Recognize that water changes the surface of Earth.
	Points			
SC.HS.13.3.B Develop a model based on evidence of Earth's interior to describe the <u>cycling of matter</u> .	Use a model to describe Earth's three layers.	Identify that Earth has layers with different characteristics.	Identify that Earth has different layers.	Recognize that Earth has different layers.
	Points			
SC.HS.13.3.C Construct an argument based on evidence to explain the multiple <u>processes that cause</u> Earth's plates to move.	Describe how the motion of Earth's tectonic plates causes different features or events.	Describe evidence of earthquakes and volcanoes.	Identify that Earth's tectonic plates move, causing earthquakes and volcanoes.	Recognize that Earth's tectonic plates move.
	Points			
SC.HS.13.3.D Plan and conduct an investigation of the <u>properties of</u> water and their effects on Earth materials, surface processes, and groundwater systems.	Make observations to understand that water's properties impact Earth's materials.	Identify that water can change Earth's materials by freezing or transporting materials.	Recognize that water changes Earth's surface by freezing or transporting materials.	Recognize that water freezes, changing Earth's surface.
	Points			

Science – Grade 11 Earth and Space Sciences

SC.HS.15 Sustainability		Access Points		
Standard / Indicator	Extension			
SC.HS.15.5 Gather, analyze, and communicate evidence to describe the interactions between society, environment, and economy.		A	B	C
SC.HS.15.5.A Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and <u>changes in climate</u> have influenced human activity.	Construct an explanation of how the availability of natural resources influences human activity. Construct an explanation of how natural hazards influence human activity.	Use evidence to construct an explanation of how the availability of renewable and nonrenewable resources impacts human society. Use evidence to construct an explanation of how natural hazards impact humans.	Identify renewable and nonrenewable resources that impact one’s life. Identify ways natural hazards impact humans.	Recognize that natural resources impact one’s life. Recognize natural hazards.
	Points			
SC.HS.15.5.D Evaluate or refine a technological solution that increases positive impacts of human activities on <u>natural systems</u> .	Construct an explanation to describe how humans positively and negatively impact Earth.	Explain ways humans positively and negatively impact Earth.	Identify ways humans impact Earth.	Recognize that humans impact Earth.
	Points			
SC.HS.15.5.E Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs	Explain how humans can reduce their impact on the environment.	Explain how humans can reduce their impact on the environment.	Identify a solution to reduce human impact on the environment.	Recognize the solution to an environmental problem.

that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Points	0-2			
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Appendix D: Confidentiality and Security Agreements



Form #08-4747
Revised 9-23-21

**2021-2022 Nebraska Student-Centered Assessment System (NSCAS) Tests
District Assessment Contact (DAC) Confidentiality of Information Agreement**

The DAC must sign, via Echosign, and submit this NSCAS Confidentiality of Information Agreement to the Statewide Assessment Office prior to the distribution of testing materials to schools within the DAC's district. The Echosigned form is due by **October 15, 2021**.

Under this agreement, you will have access to secure and confidential NSCAS assessment materials.

I acknowledge that authorized employees and representatives of the schools within this district will have access to secure materials for the purpose of administering NSCAS assessments. I understand that because the materials are highly secure, it is my professional responsibility to protect their security. Further, I will assure that all principals in my school district sign, via Echosign, the Principal Security Agreement, and I will see that the agreements are returned according to the directions provided.

I will inform district staff that any breach of security must be reported to NDE. Contact NDE with questions at: nde.stateassessment@nebraska.gov or 402-314-3013.

Please indicate the school district for which you are the District Assessment Contact:

District Code: _____ District Name: _____

Signature of District Assessment Contact

Date

Email

Direct Bus. Phone Number

Print Name

Questions about this form may be addressed to margaret.sis@nebraska.gov.



2021-2022 Nebraska Student-Centered Assessment System (NSCAS) Tests
Building Principal Security Agreement

The building principal must read, sign via Echosign, and submit this Test Security Agreement before administering any 2021-2022 NSCAS tests. The Test Security Agreement is due **October 15, 2021**. Questions about this form may be addressed to margaret.sis@nebraska.gov.

1. I will protect the contents of the test from any improper access and disclosure.
2. I will handle test items or test booklets and answer sheets in accordance with security instructions. Copying or taking notes on any statewide assessment is not allowed.
3. I will return all specified secure materials to the proper test-vendor. I will destroy any designated secure printed and digital materials.
4. I will carefully restrict access to the test materials to authorized persons.
5. I will assure students' responses are accurate reflections of their own work.
6. I will assure that students' answers to test items are their own and that no one offers any improper assistance to students.
7. I acknowledge that discussing with teachers or students, examining items, or answering any test questions contained in the assessment before, during, or after the administration of the test is a violation of test security.
8. For online tests, I understand the usernames and passwords assigned to school personnel afford access to confidential student information, are secure, and must remain confidential.
9. I am responsible for overseeing appropriate training for staff, security, and testing procedures for any of the following NSCAS assessments that are administered in my building:

Security Documents available at [NSCAS Administration and Security](#).

NSCAS Growth English Language Arts	NSCAS AA English Language Arts	NSCAS ACT
NSCAS Growth Mathematics	NSCAS AA Mathematics	English Language Proficiency Assessment for the 21st Century (ELPA21)
NSCAS Science	NSCAS AA Science	NSCAS Growth Winter Pilot

10. I will inform district staff that any breach of security must be reported to NDE. Any questions, contact NDE at: nde.stateassessment@nebraska.gov or 402-314-3013.

Please indicate the school district in which you are principal:

District Code: _____ District Name: _____

By my signature below, I certify that as the principal of the aforementioned school(s), I will read the test security procedures before administration of NSCAS tests in my school(s), and the procedures will be followed for the 2021-2022 administrations.

Signed: _____ Date: _____

Print Name: _____ Email: _____

Direct Phone: _____

Appendix E: Fairness in Testing Manual

FAIRNESS IN TESTING

Guidelines for Training Bias, Fairness, and Sensitivity Issues

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INTRODUCTION

The most important part of the development of any new test is to ensure balanced treatment and control of potential bias, stereotyping, and insensitivity in the items or in the test-related materials. Data Recognition Corporation (DRC) understands that the presence of any type of bias in a test is undesirable not only from a civil rights point of view, but also from a measurement point of view. Issues of bias, fairness, and sensitivity in testing can have a direct impact on test scores. Our test developers are committed to the development of items and tests that are fair for all students. At every stage of the item and test development process, we employ procedures that are designed to ensure that our items and tests meet Standard 7.4 of the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999).

Standard 7.4: Test developers should strive to identify and eliminate language, symbols, words, phrases, and content that are generally regarded as offensive by members of racial, ethnic, gender, or other groups, except when judged to be necessary for adequate representation of the domain.

In meeting Standard 7.4, DRC employs a series of internal quality steps that we believe are among some of the best in the industry. We provide specific training for our test developers, item writers, and reviewers on how to write, review, revise, and edit items for issues of bias, fairness, and sensitivity, as well as for technical quality. Our training also includes an awareness of and sensitivity to issues of cultural diversity.

In addition to providing *internal* training in reviewing items in order to eliminate potential bias, we also provide *external* training to our clients, including state departments of education, review panels of minority experts, teachers, and other stakeholders. DRC understands the importance of having external panels with a wide variety of expertise in reviewing items and tests for potential bias. External panels of professionals provide a review of items for subtle forms of bias that often can be perceived only by individuals who possess a wide variety of appropriate expertise and represent specific constituencies.

This manual has been prepared to summarize DRC's guidelines for bias, fairness, and sensitivity, including how to eliminate language, symbols, words, phrases, and content that might be considered offensive by members of racial, ethnic, gender, or other groups. Our guidelines may be modified to meet client's requirements and/or state-specific guidelines.

DEFINITION OF BIAS

While there are many definitions of bias, the following definition is provided on page 76 of the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999):

The term *bias* in tests and testing refers to construct-irrelevant components that result in systematically lower or higher scores for identifiable groups of examinees. In other words, **bias is the presence of some characteristic of an item and/or test that results in two individuals of the same ability but from different subgroups performing differently on the item and/or test.** Therefore, it is most important that there are no ambiguities in the test items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries.

TYPES OF BIAS

There are many types of bias. They include stereotyping and discriminating against people because of gender, regional or geographical differences, ethnicity or culture, socioeconomic or class status, religion, or age, as well as bias against other groups of people, including those with disabilities. Another form of bias involves the use of questions and/or activities in the items or on a test as a whole that are not relevant to the life experiences of the students responding to the items or test. A definition of each type of bias, along with samples, is provided below.

STEREOTYPING

“Stereotype is an image formed by ascribing certain characteristics (e.g., physical, cultural, personal, occupational, historical) to all members of a group” (National Evaluation Systems, Inc. page 2). Stereotyping in test items and tests might include physical characteristics, intellectual characteristics, emotions, careers, activities, and domestic or social roles. In writing or reviewing test items, it is very important that all groups are portrayed fairly, without stereotyping. As a result, there should be a range of characteristics, careers, and social roles across all groups, and no one group should be characterized by any one particular attribute or characteristic. Following are examples of stereotyping.

Stereotype

PHYSICAL CHARACTERISTICS

Examples

MALES ARE STRONG AND CAPABLE LEADERS.
Females are weak.

Types of Bias

Stereotyping (continued)

The elderly are feeble and sickly.
Children are healthy and full of energy.
The elderly are dependent upon others.
People with disabilities are dependent upon others.
Females worry about their hair.

Intellectual characteristics

Males do better in mathematics and science.
Females do better in reading and language arts.
Asian Americans excel in academics.

Emotions

Males are aggressive, courageous, and strong.
Females are weak, weepy, tender, and fearful.

Stereotyping

Examples

Careers

Females are nurses, teachers, and secretaries.
Males are doctors, principals, superintendents,
lawyers, and skilled laborers (e.g., plumbers,
construction workers, painters).
African-Americans are athletes.
Hispanics operate lawn care businesses.
Asian-Americans own dry cleaning businesses.

Activities

Females play with dolls and read books.
Females do domestic chores (e.g., clean house, cook, sew).
Females spend money.
Males play sports and work with tools.
Boys are rowdy.
Girls are quiet.

Domestic and/or Social Roles

Females are responsible for childcare.
Men work outside of the home and are the breadwinners.

Community

Asian-Americans live in ethnic neighborhoods.

African-Americans live in high-rise apartment buildings located in urban areas.
American Indians live on reservations.

Leadership

Men are leaders and rulers.
Women are followers.
Women are dependent on men.
Men are elected to political positions.
Females in leadership roles are aggressive and pushy.

TYPES OF BIAS (CONTINUED)

GENDER BIAS

Gender bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that show members of either sex in stereotypical activities, emotions, occupations, characteristics, and/or situations. Gender bias also involves the use of demeaning labels.

Examples of gender bias

TITLES AND SPECIFIC TERMS REFERRING TO HUMANITY AT LARGE, SUCH AS

- Mankind
- Manhood
- Manpower
- Man of the hour
- Man-hours
- Man-made

Use of gender specific terms for occupations, such as

- Fireman
- Workman
- Chairman
- Policeman
- Mailman
- Salesman
- Insurance man
- Businessman
- Congressman

Use of pronouns that imply a stereotype, such as

- The nurse went to the hospital, and *she* was able to talk with the patient.

- The factory worker needed to earn more money for *his* family.
- When the lawyer delivered *his* closing remarks, the jury listened carefully.
- A politician must give a lot of speeches when *he* runs for office.

TYPES OF BIAS

GENDER BIAS (CONTINUED)

Use of phrases that identify genders in terms of their roles or occupations, such as

- Men and girls were invited to the lecture.
- The travelers took their wives and children with them.
- The happy couple was introduced as man and wife.

Use of phrases or words with an emphasis on marital status, such as

- Abraham Lincoln and Mrs. Lincoln attended the play.
- George Washington and Martha visited the new building.
- Dr. and Mrs. Jones attended the opening of the new warehouse.
- The admirable Dr. George Halstead and his wife, Maria, visited the library.

Use of words that identify genders in the salutation of a business letter, such as

- Dear Sir:
- Dear Madam:
- Dear Gentlemen:

Use of words or phrases that are not parallel, such as

- The girls' restroom is down the hall, and the men's restroom is on the second floor.
- The boys' locker room door is painted green, and the women's locker room door is painted yellow.
- The men's department is on the right; the ladies' department is on the left.

Use of figures of speech, such as

- Old wives' tale
- Right-hand man
- Man versus nature
- The best man for the job
- The better half

Use of gender-specific terms or diminutive words, such as

- Sweet young thing
- Usherette
- Housewife

- Maid
- Cleaning lady
- Little woman
- Career girl
- Houseboy
- Steward

TYPES OF BIAS (CONTINUED)

Regional or Geographical Bias

Regional and/or geographical bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are not commonly used nationwide or within a particular region or state to which the test will be given. It also involves the use of terms that have different connotations in different parts of the country and/or geographical regions. It is important to note that some experiences may not be common to all students. For example, within a given geographic area not all students might be familiar with snow, so questions involving sleds and toboggans, for example, may well reflect a regional or geographical bias.

Examples of regional or geographical bias

- She ordered a new davenport (couch or sofa).
- Go get your toboggan (hat or type of sled).
- The students stood in line at the bubbler (water fountain or drinking fountain).
- Turn left at the berm (curb).
- Take the pike (road).

Ethnic or Cultural Bias

Ethnic bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to a particular ethnic group or culture. In addition, no minority group should be portrayed as being uneducated or poor.

Examples of ethnic or cultural bias

- Maria was in the kitchen making tacos.
- The Chinese owned a laundry in our area.
- Native Americans are very close to nature.

Terminology

Terms that have a negative connotation or that reinforce negative judgments should also be avoided. Following is a list of **acceptable** terms.

- African-American
- Asian-American or Pacific Island American
- Latino, Mexican-American, Hispanic
- Tribal name (preferred), Native American, American Indian
- European-American

TYPES OF BIAS (CONTINUED)

Socioeconomic or Class Bias

Socioeconomic or class bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include activities, possessions, or ideas that may not be common to all students within a given area. For example, not all students in a given area own CD players or video games, nor do all students in a given area participate in certain sports activities, such as golf, snow skiing, or sailing. In addition, not all students in a given area take expensive vacations or attend expensive schools.

Examples of socioeconomic or class bias

- They were members of the country club.
- Boarding school.
- How many golf balls landed in the lake?
- The club members plan to go snow skiing over the holidays.
- My great aunt lives in a town house overlooking Lake Michigan.

Religious Bias

Religious bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to a particular religious group.

Examples of religious bias

- The house on Smith Street is decorated for Halloween.
- There were several Christmas trees in the window.
- The students in the class will stand and say the *Pledge of Allegiance*.

- The high school students will be attending a rock-and-roll dance at the community center.

It is also important to note that no religious belief or practice should be portrayed as a universal norm or as inferior or superior to any other.

Ageism (Bias Against a Particular Age Group)

There are other subtle forms of bias, including bias against the elderly or ageism. Ageism involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to the elderly or older persons (65 years or older). Ageism can also involve issues of bias with other age groups, including teenagers and young children.

It is important to note, however, that representing older persons or any age group fairly does not mean that the content of the items has to be revised or rewritten to seem unrealistic. Rather, as a whole, the items and the test should show older people or any age group in a variety of roles and activities whenever they appear naturally in the test content.

Examples of ageism (bias against a particular age group)

- Despite the fact that she was very old, she was able to walk down the stairs.
- The child's grandfather seemed senile.
- They were acting like typical irresponsible teenagers.

Bias Against Persons with Disabilities

Another form of subtle bias involves issues of bias related to persons with disabilities. This type of bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to persons with disabilities. It is important to note, however, that representing persons with disabilities does not mean that the content of the items has to be revised or rewritten to seem unrealistic. Rather, as a whole, the items and the test should show people with disabilities in a variety of roles and activities whenever they appear naturally in the test content.

Examples of bias against persons with disabilities

- After the car accident, the student was confined to a wheelchair.
- He became a successful writer despite his disability.
- She is a blind person.
- The student is handicapped.
- The child made great strides in overcoming her disability.

TYPES OF BIAS

Bias Against Persons with Disabilities (continued)

Terminology

Terms that have a negative connotation or that reinforce negative judgments (crippled, victim, afflicted, confined, etc.) should also be avoided. It is also important that no one with a disability should be pictured as helpless or portrayed as pitiful.

Do not use

Retarded
Hard of hearing
Deaf and Dumb or Deaf-mute
Learning-disabled
Handicap

Use

Developmentally delayed
Hearing impaired
Deaf or hard-of-hearing used accurately
Person with a learning disability
Disability
Visually-impaired or Blind used accurately

EXPERIENTIAL BIAS

The questions and activities reflected in the items or test, as a whole, should also be relevant to the life experiences of the students responding to the items. In other words, for a student to respond sensibly to the test questions, he or she must know what the question is about. In addition, culturally specific knowledge should be avoided, along with the use of difficult words and figures of speech.

Examples of experiential bias

- Pat knew she would win the race as she had an ace up her sleeve.
- Put the pedal to the metal and clean up your room.
- I needed change for the subway turnstile.
- The arroyos filled quickly during the storm.
- The super takes care of cleaning the foyer.

MAINTAINING BALANCE

Bias may also occur as a result of having a lack of balance through underrepresentation of a particular ethnic group and/or gender. Therefore, whenever possible, tests and test-related materials should contain content that is balanced across ethnic groups and across gender. The content of the pool of items and/or test, as a whole, should also reflect cultural diversity. In order to achieve balance, the test developers at DRC review the pool of items or the test, as a whole, to determine whether or not there is an adequate representation of

- Females and males in both traditional and nontraditional roles
- Female and male names
- Minority groups in various environments and occupations
- Minority groups, including the use of names

The issue of fairness also involves content inclusiveness. Subtle forms of bias can result from omitting certain areas of information and/or from omitting certain topics. Wherever possible, the content should show people in everyday situations and groups should be depicted as fully integrated in the society, reflecting the diverse multicultural composition of society as a whole (NES, page 9).

TOPICS TO AVOID

Because issues of bias, fairness, and sensitivity in testing can have a direct impact on the test scores, it is also important that sensitive and offensive topics be avoided. A topic might be considered offensive or controversial if it offends teachers, students, parents, or the community at large. This includes highly charged and controversial topics such as abortion, the death penalty, and evolution. Unacceptable content might also include less controversial topics, such as the use of tobacco or topics that could evoke unpleasant emotions on the part of a given student. In addition, topics that appear to promote or defend a particular set of values should be avoided. It is important to remember that the ability of the student to take the test should never be undermined. Following are examples of topics generally to be avoided.

Examples of topics to be generally avoided

- *ABORTION*
- Alcohol, including beer and wine
- Behaviors that are inappropriate, including stealing, cheating, lying, and other criminal and/or anti-social behaviors and activities
- Biographies of controversial figures whether or not they are still alive
- Birthdays
- Cancer and other diseases that might be considered fatal (HIV, AIDS)
- Criticism of democracy or capitalism
- Dangerous behavior
- Death of animals or animals dying or being mistreated
- Death, murder, and suicide
- Disasters, including tornadoes, hurricanes, etc. (unless treated as scientific subjects)
- Disrespect of any mainstream racial or religious group
- Double meanings of words that have sexually suggestive meanings
- Evolution
- Family experiences that may be upsetting, including divorce or loss of a job
- Feminist or chauvinistic topics
- Gambling
- Guns and gun control
- Holidays of religious origin (e.g., Halloween, Christmas, Easter)
- Junk food, including candy, gum, chips
- Left- or right-wing politics

- Luxuries (homes with swimming pools, expensive clothes, expensive vacations, and sports activities that typically require the purchase of expensive equipment such as snow skiing)
- Parapsychology
- Physical, emotional, and/or mental abuse, including animal, child, and/or spousal abuse
- Religions, except in appropriate historical context; mythology, folk tales, and fables may contain religious elements as part of appropriately presented literary excerpts.
- Sex, including kissing and dating
- Slavery (unless presented in an historical context and presented appropriately)
- Tobacco
- Violence against a particular group of people or animals
- Rock music, including rap and heavy metal
- Wars
- Witchcraft, sorcery, or magic
- Words that might be problematic to a specific ethnic group

SPECIAL CIRCUMSTANCES

In certain subject areas, a sensitive topic may be acceptable because the topic is a part of the course of study or may be required in order to measure the specific curriculum content standards and/or test objectives. For example, it may be appropriate to have test questions dealing with hurricanes. However, the questions should not focus unduly upon the destruction of property or the deaths of human beings. Other special circumstances include historical and literary contexts. A discussion of these special circumstances is provided below.

Historical Contexts

In order to measure the content curriculum standards, social studies tests often include topics that might otherwise be deemed as controversial. For example, in a history test, the topic of slavery might be used. The student would know that such a controversial topic is used to assess knowledge of a particular curriculum content standard and/or set of objectives and, therefore, the topic would not reflect the views of the test developer.

Literary Contexts

Today's tests often require the use of authentic or previously published passages. As a result, sometimes a given passage or prompt might contain controversial material, including sentences, phrases, and/or words. If the overall passage or prompt is acceptable, it may be possible to edit and or delete the objectionable sentences, phrases, words, and/or references in order to eliminate the potential bias. In such cases, DRC test developers request permission from the publisher to make such edits and/or changes, and they would do so only if permission is granted.

POINTS TO REMEMBER

When reviewing items (questions and responses), passages prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries for issues of bias, fairness, and sensitivity, the following questions should be asked.

1. Do the items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries:

Demean any religious, ethnic, cultural, or social group?

Portray anyone or any group in a stereotypical manner?

Contain any other forms of bias, including gender, regional or geographical, ethnic or cultural, socioeconomic or class, religious, age-related bias, or bias against persons with disabilities?

2. Are there any topics that might disadvantage a student for any reason?
3. Are there any culturally specific sets of knowledge, terms, difficult words and/or figures of speech that might disadvantage a group of students?
4. Are the questions and activities reflected in the items or test, as a whole, relevant to the life experiences of the students responding to the items?
5. As a whole, does the test or pool of items have a balance across ethnic groups and across genders, including an adequate representation of:

Females and males in both traditional and nontraditional roles

Female and male names

Minority groups in various environments and occupations

Minority groups, including the use of ethnic names

6. Wherever possible, does the content show minority groups in everyday situations and groups depicted as fully integrated in the society, reflecting the multicultural composition of society as a whole?

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Appendix F:

ELA Key Verification and Foil Analysis

Grade 3 ELA

GENERAL			COUNTS	PROPORTIONS						CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	C	228	0.75	0.12	0.11	0.75	0.01	0.00	0.42	-0.25	-0.22	0.42
2	OP	A	228	0.63	0.63	0.15	0.20	0.02	0.00	0.45	0.45	-0.24	-0.23
3	OP	B	228	0.29	0.18	0.29	0.51	0.02	0.00	0.06	-0.04	0.06	0.08
4	OP	C	228	0.65	0.18	0.15	0.65	0.02	0.00	0.44	-0.18	-0.30	0.44
5	OP	B	228	0.83	0.05	0.83	0.10	0.03	0.00	0.45	-0.19	0.45	-0.25
6	OP	C	228	0.71	0.11	0.16	0.71	0.02	0.00	0.41	-0.03	-0.36	0.41
7	OP	C	228	0.74	0.07	0.17	0.74	0.02	0.00	0.37	-0.29	-0.10	0.37
8	OP	A	228	0.41	0.41	0.22	0.34	0.02	0.00	0.18	0.18	-0.09	-0.01
9	OP	B	228	0.35	0.29	0.35	0.34	0.03	0.00	0.28	0.02	0.28	-0.18
10	OP	C	228	0.61	0.21	0.16	0.61	0.02	0.00	0.42	-0.25	-0.13	0.42
11	OP	B	228	0.49	0.21	0.49	0.28	0.02	0.00	0.51	-0.20	0.51	-0.26
12	OP	C	228	0.54	0.14	0.30	0.54	0.02	0.00	0.23	-0.09	-0.08	0.23
13	OP	C	228	0.71	0.12	0.15	0.71	0.02	0.00	0.44	-0.28	-0.17	0.44
14	OP	A	228	0.27	0.27	0.31	0.40	0.03	0.00	0.11	0.11	0.04	-0.01
15	OP	C	228	0.79	0.08	0.10	0.79	0.03	0.00	0.32	0.00	-0.23	0.32
16	OP	B	228	0.43	0.17	0.43	0.37	0.04	0.00	0.32	-0.04	0.32	-0.15
17	OP	A	228	0.36	0.36	0.25	0.36	0.03	0.00	0.23	0.23	0.00	-0.10
18	OP	C	228	0.65	0.15	0.18	0.65	0.03	0.00	0.39	-0.22	-0.13	0.39
19	OP	A	228	0.60	0.60	0.13	0.23	0.04	0.00	0.51	0.51	-0.19	-0.27
20	OP	B	228	0.40	0.20	0.40	0.37	0.03	0.00	0.29	-0.19	0.29	0.00
21	OP	C	228	0.60	0.22	0.15	0.60	0.04	0.00	0.31	-0.05	-0.16	0.31
22	OP	A	228	0.47	0.47	0.22	0.28	0.04	0.00	0.38	0.38	-0.04	-0.21
23	OP	B	228	0.39	0.25	0.39	0.33	0.04	0.00	0.16	0.07	0.16	-0.07
24	OP	B	228	0.47	0.17	0.47	0.33	0.03	0.00	0.45	-0.17	0.45	-0.19
25	OP	A	228	0.58	0.58	0.10	0.29	0.04	0.00	0.47	0.47	-0.24	-0.19
26	OP	C	228	0.64	0.18	0.15	0.64	0.04	0.00	0.29	-0.11	-0.09	0.29
27	OP	B	228	0.56	0.11	0.56	0.29	0.04	0.00	0.56	-0.15	0.56	-0.32
28	OP	C	228	0.46	0.25	0.26	0.46	0.04	0.00	0.35	-0.09	-0.14	0.35
29	FT	B	115	0.32	0.27	0.32	0.36	0.05	0.00	0.37	-0.05	0.37	-0.12
30	FT	A	115	0.58	0.58	0.14	0.24	0.04	0.00	0.52	0.52	-0.18	-0.25
31	FT	A	115	0.30	0.30	0.27	0.38	0.05	0.00	0.39	0.39	0.04	-0.21
32	FT	C	115	0.71	0.10	0.14	0.71	0.04	0.00	0.32	-0.18	-0.01	0.32
33	FT	A	115	0.33	0.33	0.24	0.38	0.04	0.00	0.24	0.24	0.03	-0.08
34	FT	B	115	0.63	0.14	0.63	0.18	0.05	0.00	0.46	-0.13	0.46	-0.22
35	FT	C	115	0.65	0.16	0.15	0.65	0.04	0.00	0.43	-0.25	-0.07	0.43
36	FT	A	115	0.48	0.48	0.19	0.29	0.04	0.00	0.36	0.36	-0.08	-0.14
37	FT	A	113	0.35	0.35	0.20	0.42	0.03	0.00	0.10	0.10	-0.17	0.16
38	FT	B	113	0.65	0.14	0.65	0.18	0.04	0.00	0.55	-0.27	0.55	-0.25
39	FT	A	113	0.45	0.45	0.20	0.33	0.03	0.00	0.45	0.45	-0.16	-0.22
40	FT	C	113	0.65	0.12	0.20	0.65	0.04	0.00	0.33	-0.09	-0.14	0.33
41	FT	B	113	0.51	0.16	0.51	0.28	0.04	0.00	0.46	-0.09	0.46	-0.25
42	FT	C	113	0.61	0.17	0.20	0.61	0.03	0.00	0.27	-0.10	-0.08	0.27
43	FT	A	113	0.47	0.47	0.17	0.32	0.04	0.00	0.30	0.30	-0.18	0.01
44	FT	B	113	0.52	0.17	0.52	0.26	0.05	0.00	0.50	-0.27	0.50	-0.17

Grade 4 ELA

GENERAL			COUNTS	PROPORTIONS						CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	B	243	0.73	0.07	0.73	0.20	0.00	0.00	0.46	-0.28	0.46	-0.32
2	OP	A	243	0.70	0.70	0.14	0.16	0.00	0.00	0.48	0.48	-0.27	-0.35
3	OP	C	243	0.54	0.16	0.30	0.54	0.01	0.00	0.28	-0.12	-0.17	0.28
4	OP	B	243	0.62	0.18	0.62	0.19	0.01	0.00	0.39	-0.25	0.39	-0.19
5	OP	A	243	0.73	0.73	0.11	0.15	0.01	0.00	0.51	0.51	-0.29	-0.30
6	OP	A	243	0.60	0.60	0.15	0.24	0.01	0.00	0.20	0.20	-0.12	-0.07
7	OP	C	243	0.58	0.24	0.16	0.58	0.02	0.00	0.23	-0.04	-0.15	0.23
8	OP	B	243	0.45	0.15	0.45	0.38	0.02	0.00	0.41	-0.18	0.41	-0.20
9	OP	A	243	0.64	0.64	0.14	0.21	0.01	0.00	0.54	0.54	-0.27	-0.34
10	OP	B	243	0.48	0.25	0.48	0.26	0.02	0.00	0.25	0.13	0.25	-0.34
11	OP	C	243	0.58	0.22	0.18	0.58	0.02	0.00	0.31	-0.16	-0.12	0.31
12	OP	C	243	0.76	0.11	0.12	0.76	0.02	0.00	0.37	-0.20	-0.18	0.37
13	OP	B	243	0.72	0.09	0.72	0.18	0.02	0.00	0.51	-0.27	0.51	-0.30
14	OP	A	243	0.43	0.43	0.19	0.36	0.02	0.00	0.16	0.16	0.01	-0.09
15	OP	B	243	0.28	0.33	0.28	0.38	0.02	0.00	0.24	0.03	0.24	-0.16
16	OP	C	243	0.68	0.16	0.14	0.68	0.02	0.00	0.35	-0.15	-0.20	0.35
17	OP	B	243	0.38	0.14	0.38	0.46	0.02	0.00	0.37	-0.13	0.37	-0.17
18	OP	C	243	0.52	0.21	0.25	0.52	0.02	0.00	0.06	0.09	-0.04	0.06
19	OP	B	243	0.49	0.21	0.49	0.27	0.02	0.00	0.43	-0.15	0.43	-0.24
20	OP	A	243	0.43	0.43	0.17	0.38	0.02	0.00	0.21	0.21	-0.11	-0.03
21	OP	B	243	0.42	0.30	0.42	0.27	0.02	0.00	0.35	-0.12	0.35	-0.15
22	OP	B	243	0.52	0.14	0.52	0.32	0.02	0.00	0.49	-0.18	0.49	-0.29
23	OP	A	243	0.36	0.36	0.29	0.33	0.02	0.00	0.22	0.22	-0.04	-0.09
24	OP	C	243	0.54	0.25	0.19	0.54	0.02	0.00	0.19	-0.07	-0.05	0.19
25	OP	A	243	0.47	0.47	0.17	0.33	0.03	0.00	0.36	0.36	-0.16	-0.16
26	OP	C	243	0.44	0.33	0.21	0.44	0.02	0.00	0.13	-0.05	0.01	0.13
27	OP	B	243	0.33	0.28	0.33	0.37	0.02	0.00	0.35	-0.12	0.35	-0.14
28	OP	A	243	0.39	0.39	0.17	0.42	0.02	0.00	0.19	0.19	-0.15	0.03
29	FT	C	117	0.29	0.44	0.25	0.29	0.03	0.00	0.02	0.11	-0.01	0.02
30	FT	A	117	0.39	0.39	0.28	0.30	0.03	0.00	0.22	0.22	0.04	-0.15
31	FT	A	117	0.44	0.44	0.18	0.36	0.03	0.00	0.35	0.35	-0.18	-0.09
32	FT	C	117	0.56	0.24	0.18	0.56	0.03	0.00	0.22	-0.07	-0.06	0.22
33	FT	B	117	0.27	0.24	0.27	0.47	0.03	0.00	0.20	-0.09	0.20	0.01
34	FT	B	117	0.26	0.31	0.26	0.41	0.03	0.00	-0.13	-0.02	-0.13	0.25
35	FT	A	117	0.37	0.37	0.35	0.26	0.03	0.00	0.27	0.27	0.11	-0.29
36	FT	C	117	0.60	0.19	0.19	0.60	0.03	0.00	0.31	-0.14	-0.09	0.31
37	FT	A	126	0.49	0.49	0.23	0.25	0.02	0.00	0.40	0.40	-0.14	-0.22
38	FT	B	126	0.29	0.28	0.29	0.41	0.02	0.00	0.42	-0.14	0.42	-0.17
39	FT	C	126	0.62	0.21	0.15	0.62	0.02	0.00	0.23	-0.13	-0.05	0.23
40	FT	C	126	0.52	0.21	0.25	0.52	0.02	0.00	0.18	0.00	-0.10	0.18
41	FT	B	126	0.29	0.19	0.29	0.49	0.02	0.00	0.33	0.00	0.33	-0.21
42	FT	B	126	0.48	0.13	0.48	0.37	0.02	0.00	0.59	-0.19	0.59	-0.38
43	FT	A	126	0.48	0.48	0.18	0.32	0.02	0.00	0.26	0.26	-0.08	-0.12
44	FT	B	126	0.22	0.38	0.22	0.37	0.02	0.00	0.18	0.16	0.18	-0.22

Grade 5 ELA

GENERAL		COUNTS			PROPORTIONS					CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	C	261	0.80	0.07	0.12	0.80	0.01	0.00	0.44	-0.26	-0.27	0.44
2	OP	A	261	0.58	0.58	0.18	0.23	0.01	0.00	0.38	0.38	-0.20	-0.19
3	OP	B	261	0.48	0.20	0.48	0.29	0.02	0.00	0.36	-0.05	0.36	-0.23
4	OP	B	261	0.67	0.13	0.67	0.17	0.03	0.00	0.45	-0.16	0.45	-0.25
5	OP	C	261	0.69	0.14	0.15	0.69	0.02	0.00	0.32	-0.18	-0.08	0.32
6	OP	C	261	0.73	0.10	0.15	0.73	0.02	0.00	0.47	-0.22	-0.30	0.47
7	OP	A	261	0.46	0.46	0.21	0.31	0.03	0.00	0.37	0.37	-0.15	-0.12
8	OP	B	261	0.48	0.15	0.48	0.33	0.04	0.00	0.42	-0.13	0.42	-0.17
9	OP	B	261	0.51	0.15	0.51	0.30	0.03	0.00	0.45	-0.15	0.45	-0.21
10	OP	C	261	0.72	0.16	0.09	0.72	0.04	0.00	0.40	-0.14	-0.17	0.40
11	OP	A	261	0.53	0.53	0.16	0.28	0.03	0.00	0.45	0.45	-0.10	-0.23
12	OP	C	261	0.64	0.15	0.18	0.64	0.03	0.00	0.35	-0.09	-0.14	0.35
13	OP	A	261	0.53	0.53	0.15	0.28	0.03	0.00	0.42	0.42	-0.21	-0.13
14	OP	B	261	0.27	0.30	0.27	0.40	0.04	0.00	0.26	-0.16	0.26	0.09
15	OP	A	261	0.51	0.51	0.17	0.30	0.03	0.00	0.46	0.46	-0.23	-0.16
16	OP	C	261	0.58	0.25	0.13	0.58	0.04	0.00	0.23	-0.03	-0.03	0.23
17	OP	C	261	0.44	0.26	0.26	0.44	0.03	0.00	0.14	-0.12	0.13	0.14
18	OP	A	261	0.40	0.40	0.26	0.30	0.04	0.00	0.32	0.32	-0.06	-0.09
19	OP	A	261	0.63	0.63	0.16	0.18	0.03	0.00	0.49	0.49	-0.27	-0.14
20	OP	C	261	0.50	0.22	0.24	0.50	0.04	0.00	0.23	-0.01	-0.05	0.23
21	OP	B	261	0.36	0.21	0.36	0.38	0.04	0.00	0.33	-0.10	0.33	-0.04
22	OP	A	261	0.54	0.54	0.18	0.23	0.05	0.00	0.41	0.41	-0.04	-0.21
23	OP	A	261	0.40	0.40	0.28	0.28	0.05	0.00	0.23	0.23	0.07	-0.09
24	OP	C	261	0.65	0.17	0.14	0.65	0.04	0.00	0.36	-0.14	-0.10	0.36
25	OP	B	261	0.38	0.35	0.38	0.23	0.04	0.00	0.23	0.09	0.23	-0.14
26	OP	A	261	0.37	0.37	0.33	0.26	0.04	0.00	0.37	0.37	-0.06	-0.13
27	OP	C	261	0.53	0.23	0.20	0.53	0.03	0.00	0.20	-0.08	0.03	0.20
28	OP	C	261	0.59	0.17	0.20	0.59	0.04	0.00	0.31	-0.17	0.00	0.31
29	FT	A	128	0.40	0.40	0.17	0.38	0.05	0.00	0.44	0.44	-0.17	-0.07
30	FT	B	128	0.18	0.34	0.18	0.42	0.06	0.00	0.21	0.01	0.21	0.06
31	FT	B	128	0.22	0.23	0.22	0.49	0.06	0.00	0.31	-0.03	0.31	0.01
32	FT	C	128	0.39	0.13	0.43	0.39	0.05	0.00	0.11	0.22	-0.03	0.11
33	FT	A	128	0.41	0.41	0.18	0.38	0.04	0.00	0.24	0.24	0.02	-0.05
34	FT	C	128	0.55	0.17	0.22	0.55	0.06	0.00	0.42	-0.10	-0.10	0.42
35	FT	B	128	0.27	0.20	0.27	0.48	0.06	0.00	0.32	-0.11	0.32	0.05
36	FT	C	128	0.51	0.27	0.18	0.51	0.05	0.00	0.24	-0.10	0.11	0.24
37	FT	B	133	0.26	0.31	0.26	0.38	0.05	0.00	0.20	-0.05	0.20	0.01
38	FT	C	133	0.38	0.26	0.31	0.38	0.05	0.00	0.08	-0.05	0.11	0.08
39	FT	A	133	0.46	0.46	0.16	0.34	0.05	0.00	0.23	0.23	-0.05	-0.07
40	FT	C	133	0.56	0.26	0.14	0.56	0.05	0.00	0.35	-0.15	-0.12	0.35
41	FT	A	133	0.53	0.53	0.14	0.29	0.05	0.00	0.24	0.24	0.01	-0.13
42	FT	A	133	0.36	0.36	0.27	0.32	0.05	0.00	0.08	0.08	0.02	0.04
43	FT	B	133	0.27	0.34	0.27	0.35	0.05	0.00	0.30	-0.12	0.30	-0.01
44	FT	C	133	0.59	0.20	0.16	0.59	0.05	0.00	0.34	-0.11	-0.15	0.34

Grade 6 ELA

GENERAL		COUNTS			PROPORTIONS					CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	A	253	0.68	0.68	0.16	0.16	0.00	0.00	0.47	0.47	-0.32	-0.27
2	OP	B	253	0.59	0.24	0.59	0.15	0.01	0.00	0.35	-0.06	0.35	-0.32
3	OP	B	253	0.68	0.15	0.68	0.15	0.02	0.00	0.33	-0.25	0.33	-0.09
4	OP	C	253	0.76	0.13	0.10	0.76	0.01	0.00	0.43	-0.27	-0.21	0.43
5	OP	B	253	0.65	0.12	0.65	0.23	0.01	0.00	0.33	-0.18	0.33	-0.16
6	OP	C	253	0.55	0.23	0.20	0.55	0.02	0.00	0.25	-0.09	-0.09	0.25
7	OP	A	253	0.68	0.68	0.13	0.17	0.02	0.00	0.35	0.35	-0.09	-0.20
8	OP	B	253	0.59	0.19	0.59	0.19	0.02	0.00	0.39	-0.08	0.39	-0.26
9	OP	C	253	0.67	0.14	0.17	0.67	0.02	0.00	0.31	-0.19	-0.08	0.31
10	OP	A	253	0.24	0.24	0.36	0.37	0.02	0.00	0.15	0.15	0.09	-0.11
11	OP	C	253	0.41	0.26	0.31	0.41	0.02	0.00	0.12	0.03	-0.05	0.12
12	OP	B	253	0.39	0.33	0.39	0.25	0.03	0.00	0.34	0.00	0.34	-0.24
13	OP	B	253	0.38	0.22	0.38	0.37	0.03	0.00	0.39	0.02	0.39	-0.26
14	OP	A	253	0.47	0.47	0.23	0.29	0.02	0.00	0.33	0.33	-0.03	-0.23
15	OP	C	253	0.61	0.23	0.13	0.61	0.02	0.00	0.26	-0.08	-0.10	0.26
16	OP	A	253	0.72	0.72	0.10	0.14	0.03	0.00	0.45	0.45	-0.17	-0.24
17	OP	C	253	0.58	0.24	0.15	0.58	0.03	0.00	0.37	-0.14	-0.17	0.37
18	OP	C	253	0.51	0.29	0.17	0.51	0.03	0.00	0.29	-0.14	-0.04	0.29
19	OP	B	253	0.50	0.20	0.50	0.28	0.02	0.00	0.37	-0.09	0.37	-0.20
20	OP	C	253	0.41	0.35	0.20	0.41	0.04	0.00	0.08	0.00	0.08	0.08
21	OP	A	253	0.42	0.42	0.22	0.33	0.04	0.00	0.15	0.15	0.04	-0.03
22	OP	A	253	0.47	0.47	0.19	0.31	0.04	0.00	0.27	0.27	-0.07	-0.06
23	OP	B	253	0.51	0.15	0.51	0.31	0.04	0.00	0.41	-0.20	0.41	-0.14
24	OP	B	253	0.53	0.21	0.53	0.22	0.04	0.00	0.43	-0.17	0.43	-0.16
25	OP	A	253	0.55	0.55	0.22	0.20	0.04	0.00	0.35	0.35	-0.08	-0.18
26	OP	B	253	0.47	0.21	0.47	0.29	0.04	0.00	0.37	-0.17	0.37	-0.10
27	OP	C	253	0.44	0.27	0.26	0.44	0.04	0.00	0.23	-0.10	0.00	0.23
28	OP	B	253	0.24	0.32	0.24	0.39	0.04	0.00	0.38	-0.12	0.38	-0.05
29	FT	B	124	0.41	0.20	0.41	0.32	0.07	0.00	0.48	0.04	0.48	-0.30
30	FT	C	124	0.46	0.26	0.21	0.46	0.07	0.00	0.39	-0.15	-0.03	0.39
31	FT	A	124	0.40	0.40	0.30	0.23	0.07	0.00	0.15	0.15	0.15	-0.06
32	FT	B	124	0.32	0.27	0.32	0.32	0.09	0.00	0.36	0.02	0.36	-0.09
33	FT	B	124	0.36	0.23	0.36	0.32	0.09	0.00	0.28	-0.10	0.28	0.10
34	FT	A	124	0.36	0.36	0.32	0.23	0.09	0.00	0.08	0.08	0.31	-0.11
35	FT	C	124	0.40	0.40	0.11	0.40	0.09	0.00	0.29	-0.05	0.07	0.29
36	FT	C	124	0.52	0.22	0.17	0.52	0.09	0.00	0.37	-0.09	-0.03	0.37
37	FT	A	129	0.43	0.43	0.23	0.31	0.03	0.00	0.20	0.20	0.03	-0.18
38	FT	C	129	0.52	0.22	0.23	0.52	0.03	0.00	0.05	-0.17	0.18	0.05
39	FT	B	129	0.33	0.33	0.33	0.32	0.03	0.00	0.19	-0.07	0.19	-0.06
40	FT	C	129	0.64	0.12	0.20	0.64	0.04	0.00	0.26	-0.16	-0.08	0.26
41	FT	A	129	0.55	0.55	0.16	0.26	0.03	0.00	0.25	0.25	-0.10	-0.13
42	FT	B	129	0.32	0.31	0.32	0.33	0.04	0.00	-0.01	0.07	-0.01	0.02
43	FT	A	129	0.35	0.35	0.21	0.41	0.03	0.00	0.06	0.06	0.03	-0.02
44	FT	B	129	0.33	0.40	0.33	0.25	0.03	0.00	0.21	0.07	0.21	-0.24

Grade 7 ELA

GENERAL			COUNTS	PROPORTIONS						CORRELATIONS			
Item	Usage	Key	N	P-value	A	B	C	-	*	Total	A	B	C
1	OP	B	235	0.69	0.14	0.69	0.17	0.01	0.00	0.39	-0.25	0.39	-0.21
2	OP	A	235	0.63	0.63	0.12	0.23	0.01	0.00	0.44	0.44	-0.21	-0.27
3	OP	C	235	0.84	0.06	0.08	0.84	0.02	0.00	0.29	-0.12	-0.15	0.29
4	OP	C	235	0.49	0.31	0.17	0.49	0.03	0.00	0.25	-0.07	-0.07	0.25
5	OP	B	235	0.57	0.11	0.57	0.30	0.03	0.00	0.52	-0.27	0.52	-0.26
6	OP	C	235	0.62	0.24	0.11	0.62	0.03	0.00	0.40	-0.17	-0.16	0.40
7	OP	A	235	0.39	0.39	0.14	0.43	0.04	0.00	0.18	0.18	0.14	-0.10
8	OP	C	235	0.64	0.16	0.16	0.64	0.04	0.00	0.34	-0.09	-0.10	0.34
9	OP	B	235	0.73	0.05	0.73	0.17	0.05	0.00	0.54	-0.14	0.54	-0.29
10	OP	A	235	0.40	0.40	0.26	0.29	0.05	0.00	0.26	0.26	0.11	-0.16
11	OP	B	235	0.61	0.12	0.61	0.22	0.05	0.00	0.50	-0.11	0.50	-0.24
12	OP	C	235	0.72	0.08	0.14	0.72	0.06	0.00	0.43	-0.15	-0.11	0.43
13	OP	B	235	0.51	0.16	0.51	0.28	0.06	0.00	0.46	-0.12	0.46	-0.15
14	OP	A	235	0.33	0.33	0.17	0.45	0.06	0.00	0.23	0.23	0.05	-0.02
15	OP	B	235	0.37	0.22	0.37	0.36	0.06	0.00	0.36	-0.04	0.36	-0.07
16	OP	C	235	0.55	0.22	0.17	0.55	0.06	0.00	0.30	-0.01	-0.06	0.30
17	OP	A	235	0.45	0.45	0.20	0.30	0.06	0.00	0.44	0.44	0.00	-0.22
18	OP	B	235	0.41	0.11	0.41	0.43	0.06	0.00	0.43	-0.05	0.43	-0.17
19	OP	A	235	0.40	0.40	0.23	0.31	0.06	0.00	0.44	0.44	-0.04	-0.16
20	OP	C	235	0.70	0.09	0.15	0.70	0.06	0.00	0.40	-0.14	-0.08	0.40
21	OP	B	235	0.42	0.22	0.42	0.30	0.06	0.00	0.42	-0.04	0.42	-0.14
22	OP	B	235	0.58	0.10	0.58	0.26	0.06	0.00	0.46	-0.09	0.46	-0.16
23	OP	C	235	0.52	0.26	0.16	0.52	0.06	0.00	0.19	0.07	-0.04	0.19
24	OP	B	235	0.48	0.13	0.48	0.32	0.06	0.00	0.59	-0.14	0.59	-0.28
25	OP	C	235	0.55	0.21	0.17	0.55	0.07	0.00	0.30	-0.01	-0.04	0.30
26	OP	A	235	0.32	0.32	0.23	0.38	0.07	0.00	0.42	0.42	-0.04	-0.10
27	OP	A	235	0.45	0.45	0.21	0.27	0.06	0.00	0.47	0.47	-0.04	-0.22
28	OP	B	235	0.55	0.15	0.55	0.24	0.07	0.00	0.44	-0.08	0.44	-0.16
29	FT	C	114	0.68	0.11	0.12	0.68	0.10	0.00	0.50	-0.10	-0.08	0.50
30	FT	A	114	0.54	0.54	0.13	0.23	0.10	0.00	0.51	0.51	0.02	-0.19
31	FT	A	114	0.29	0.29	0.33	0.30	0.09	0.00	0.22	0.22	0.23	-0.09
32	FT	B	114	0.36	0.14	0.36	0.40	0.10	0.00	0.44	-0.11	0.44	0.01
33	FT	C	114	0.47	0.21	0.22	0.47	0.10	0.00	0.43	-0.20	0.11	0.43
34	FT	A	114	0.47	0.47	0.18	0.25	0.10	0.00	0.49	0.49	-0.05	-0.11
35	FT	C	114	0.36	0.27	0.27	0.36	0.10	0.00	0.03	0.12	0.25	0.03
36	FT	A	114	0.33	0.33	0.24	0.33	0.10	0.00	0.21	0.21	0.13	0.05
37	FT	A	121	0.26	0.26	0.30	0.37	0.07	0.00	0.11	0.11	0.13	-0.03
38	FT	B	121	0.31	0.21	0.31	0.43	0.06	0.00	0.12	0.11	0.12	-0.02
39	FT	A	121	0.40	0.40	0.24	0.31	0.06	0.00	0.42	0.42	-0.12	-0.15
40	FT	A	121	0.36	0.36	0.31	0.28	0.06	0.00	0.34	0.34	0.00	-0.17
41	FT	C	121	0.62	0.20	0.12	0.62	0.06	0.00	0.23	-0.06	-0.01	0.23
42	FT	B	121	0.24	0.24	0.24	0.46	0.06	0.00	0.01	0.18	0.01	0.01
43	FT	C	121	0.46	0.12	0.36	0.46	0.06	0.00	0.30	-0.08	-0.08	0.30
44	FT	A	121	0.39	0.39	0.27	0.28	0.06	0.00	0.16	0.16	0.18	-0.16

Grade 8 ELA

GENERAL		COUNTS			PROPORTIONS					CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	C	248	0.65	0.17	0.18	0.65	0.00	0.00	0.35	-0.22	-0.20	0.35
2	OP	A	248	0.55	0.55	0.17	0.26	0.02	0.00	0.34	0.34	-0.11	-0.22
3	OP	B	248	0.72	0.08	0.72	0.19	0.01	0.00	0.38	-0.19	0.38	-0.24
4	OP	A	248	0.78	0.78	0.11	0.11	0.01	0.00	0.44	0.44	-0.29	-0.24
5	OP	B	248	0.54	0.15	0.54	0.30	0.01	0.00	0.47	-0.23	0.47	-0.29
6	OP	C	248	0.61	0.21	0.17	0.61	0.01	0.00	0.42	-0.19	-0.26	0.42
7	OP	B	248	0.42	0.24	0.42	0.32	0.02	0.00	0.21	-0.04	0.21	-0.10
8	OP	B	248	0.57	0.23	0.57	0.19	0.01	0.00	0.48	-0.23	0.48	-0.28
9	OP	C	248	0.59	0.18	0.22	0.59	0.02	0.00	0.30	-0.13	-0.15	0.30
10	OP	A	248	0.48	0.48	0.25	0.24	0.02	0.00	0.44	0.44	-0.13	-0.29
11	OP	B	248	0.58	0.19	0.58	0.21	0.02	0.00	0.52	-0.24	0.52	-0.28
12	OP	C	248	0.62	0.22	0.15	0.62	0.02	0.00	0.32	-0.03	-0.27	0.32
13	OP	B	248	0.70	0.09	0.70	0.19	0.02	0.00	0.51	-0.22	0.51	-0.31
14	OP	A	248	0.50	0.50	0.19	0.29	0.02	0.00	0.43	0.43	-0.22	-0.17
15	OP	A	248	0.40	0.40	0.22	0.36	0.02	0.00	0.35	0.35	-0.11	-0.16
16	OP	C	248	0.67	0.16	0.15	0.67	0.02	0.00	0.38	-0.22	-0.13	0.38
17	OP	A	248	0.38	0.38	0.23	0.36	0.03	0.00	0.33	0.33	-0.04	-0.20
18	OP	B	248	0.48	0.24	0.48	0.25	0.03	0.00	0.34	-0.03	0.34	-0.24
19	OP	A	248	0.59	0.59	0.13	0.25	0.02	0.00	0.52	0.52	-0.27	-0.26
20	OP	C	248	0.52	0.16	0.29	0.52	0.02	0.00	0.19	-0.14	0.02	0.19
21	OP	C	248	0.65	0.15	0.17	0.65	0.03	0.00	0.32	-0.08	-0.17	0.32
22	OP	A	248	0.48	0.48	0.19	0.31	0.03	0.00	0.38	0.38	-0.06	-0.23
23	OP	B	248	0.50	0.20	0.50	0.27	0.03	0.00	0.46	-0.17	0.46	-0.23
24	OP	C	248	0.57	0.24	0.17	0.57	0.03	0.00	0.27	-0.08	-0.10	0.27
25	OP	A	248	0.32	0.32	0.27	0.39	0.03	0.00	0.24	0.24	0.00	-0.10
26	OP	B	248	0.59	0.14	0.59	0.25	0.03	0.00	0.45	-0.14	0.45	-0.26
27	OP	A	248	0.36	0.36	0.30	0.31	0.03	0.00	0.32	0.32	-0.02	-0.19
28	OP	C	248	0.55	0.21	0.21	0.55	0.03	0.00	0.16	-0.09	0.03	0.16
29	FT	A	126	0.45	0.45	0.18	0.33	0.03	0.00	0.43	0.43	-0.21	-0.13
30	FT	A	126	0.36	0.36	0.26	0.35	0.03	0.00	0.26	0.26	-0.12	0.00
31	FT	B	126	0.48	0.15	0.48	0.34	0.03	0.00	0.39	-0.23	0.39	-0.09
32	FT	C	126	0.63	0.18	0.16	0.63	0.03	0.00	0.42	-0.12	-0.24	0.42
33	FT	C	126	0.56	0.23	0.18	0.56	0.03	0.00	0.22	-0.04	-0.06	0.22
34	FT	B	126	0.34	0.30	0.34	0.33	0.03	0.00	0.29	0.04	0.29	-0.18
35	FT	C	126	0.61	0.17	0.19	0.61	0.03	0.00	0.31	-0.03	-0.17	0.31
36	FT	A	126	0.43	0.43	0.22	0.32	0.03	0.00	0.40	0.40	-0.04	-0.23
37	FT	B	122	0.29	0.30	0.29	0.37	0.04	0.00	-0.04	-0.05	-0.04	0.13
38	FT	A	122	0.36	0.36	0.16	0.43	0.04	0.00	0.24	0.24	-0.07	-0.13
39	FT	C	122	0.52	0.22	0.22	0.52	0.04	0.00	0.03	0.00	0.02	0.03
40	FT	C	122	0.48	0.20	0.28	0.48	0.04	0.00	0.17	-0.07	-0.07	0.17
41	FT	B	122	0.25	0.39	0.25	0.32	0.04	0.00	0.26	0.09	0.26	-0.28
42	FT	C	122	0.49	0.30	0.16	0.49	0.05	0.00	0.27	-0.12	-0.18	0.27
43	FT	B	122	0.19	0.34	0.19	0.42	0.05	0.00	0.32	0.15	0.32	-0.36
44	FT	A	122	0.57	0.57	0.12	0.26	0.05	0.00	0.38	0.38	-0.04	-0.36

High School ELA

Item	GENERAL		COUNTS		PROPORTIONS					CORRELATIONS			
	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	B	222	0.80	0.09	0.80	0.11	0.00	0.00	0.39	-0.19	0.39	-0.32
2	OP	A	222	0.73	0.73	0.14	0.13	0.01	0.00	0.48	0.48	-0.29	-0.28
3	OP	A	222	0.60	0.60	0.18	0.20	0.02	0.00	0.50	0.50	-0.15	-0.36
4	OP	C	222	0.65	0.18	0.14	0.65	0.03	0.00	0.48	-0.22	-0.24	0.48
5	OP	B	222	0.47	0.25	0.47	0.25	0.03	0.00	0.48	-0.08	0.48	-0.33
6	OP	C	222	0.73	0.11	0.13	0.73	0.03	0.00	0.40	-0.11	-0.24	0.40
7	OP	C	222	0.47	0.22	0.28	0.47	0.03	0.00	0.42	-0.21	-0.14	0.42
8	OP	B	222	0.60	0.14	0.60	0.23	0.03	0.00	0.39	-0.15	0.39	-0.19
9	OP	A	222	0.50	0.50	0.17	0.30	0.03	0.00	0.44	0.44	-0.18	-0.20
10	OP	A	222	0.45	0.45	0.25	0.27	0.03	0.00	0.52	0.52	-0.14	-0.31
11	OP	B	222	0.71	0.11	0.71	0.16	0.02	0.00	0.42	-0.11	0.42	-0.30
12	OP	B	222	0.59	0.15	0.59	0.23	0.04	0.00	0.42	-0.06	0.42	-0.26
13	OP	A	222	0.58	0.58	0.18	0.21	0.03	0.00	0.48	0.48	-0.08	-0.34
14	OP	C	222	0.72	0.14	0.11	0.72	0.03	0.00	0.47	-0.25	-0.21	0.47
15	OP	A	222	0.51	0.51	0.17	0.30	0.03	0.00	0.55	0.55	-0.24	-0.27
16	OP	B	222	0.37	0.24	0.37	0.37	0.03	0.00	0.38	0.01	0.38	-0.27
17	OP	A	222	0.50	0.50	0.24	0.23	0.03	0.00	0.44	0.44	-0.12	-0.24
18	OP	C	222	0.45	0.31	0.21	0.45	0.03	0.00	0.16	-0.02	0.00	0.16
19	OP	C	222	0.56	0.16	0.25	0.56	0.03	0.00	0.36	-0.27	-0.03	0.36
20	OP	A	222	0.53	0.53	0.11	0.33	0.03	0.00	0.40	0.40	-0.19	-0.17
21	OP	C	222	0.60	0.19	0.19	0.60	0.03	0.00	0.37	-0.11	-0.18	0.37
22	OP	B	222	0.54	0.17	0.54	0.27	0.03	0.00	0.48	-0.22	0.48	-0.20
23	OP	C	222	0.64	0.14	0.19	0.64	0.03	0.00	0.48	-0.22	-0.21	0.48
24	OP	B	222	0.73	0.11	0.73	0.14	0.03	0.00	0.36	-0.16	0.36	-0.15
25	OP	C	222	0.64	0.19	0.13	0.64	0.03	0.00	0.37	-0.11	-0.20	0.37
26	OP	C	222	0.58	0.18	0.22	0.58	0.03	0.00	0.38	-0.14	-0.17	0.38
27	OP	A	222	0.47	0.47	0.19	0.30	0.04	0.00	0.47	0.47	-0.14	-0.23
28	OP	A	222	0.47	0.47	0.22	0.28	0.03	0.00	0.41	0.41	-0.13	-0.18
29	FT	C	118	0.56	0.27	0.14	0.56	0.03	0.00	0.05	0.15	-0.09	0.05
30	FT	A	118	0.41	0.41	0.20	0.36	0.03	0.00	0.32	0.32	-0.03	-0.18
31	FT	B	118	0.38	0.20	0.38	0.40	0.03	0.00	0.41	-0.11	0.41	-0.19
32	FT	C	118	0.67	0.19	0.12	0.67	0.03	0.00	0.39	-0.11	-0.24	0.39
33	FT	C	118	0.59	0.20	0.19	0.59	0.03	0.00	0.38	-0.27	-0.04	0.38
34	FT	B	118	0.41	0.21	0.41	0.36	0.03	0.00	0.35	-0.02	0.35	-0.22
35	FT	A	118	0.53	0.53	0.10	0.35	0.03	0.00	0.49	0.49	-0.17	-0.28
36	FT	B	118	0.37	0.19	0.37	0.42	0.03	0.00	0.43	-0.05	0.43	-0.26
37	FT	A	104	0.44	0.44	0.29	0.23	0.04	0.00	0.41	0.41	-0.08	-0.22
38	FT	C	104	0.48	0.23	0.25	0.48	0.04	0.00	0.34	-0.14	-0.08	0.34
39	FT	B	104	0.39	0.15	0.39	0.42	0.04	0.00	0.23	-0.09	0.23	-0.01
40	FT	C	104	0.53	0.28	0.15	0.53	0.04	0.00	0.39	-0.06	-0.24	0.39
41	FT	A	104	0.41	0.41	0.30	0.25	0.04	0.00	0.36	0.36	-0.06	-0.17
42	FT	B	104	0.41	0.21	0.41	0.34	0.04	0.00	0.44	-0.01	0.44	-0.29
43	FT	C	104	0.29	0.27	0.40	0.29	0.04	0.00	0.04	0.29	-0.14	0.04
44	FT	A	104	0.28	0.28	0.39	0.29	0.04	0.00	0.08	0.08	0.11	-0.02

Appendix G:

Mathematics Key Verification and Foil Analysis

Grade 3 Mathematics

Item	GENERAL		COUNTS		PROPORTIONS					CORRELATIONS			
	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP (Form A)	A	115	0.64	0.64	0.16	0.17	0.04	0.00	0.45	0.45	-0.21	-0.19
2	OP (Form A)	B	115	0.27	0.23	0.27	0.46	0.04	0.00	0.16	-0.10	0.16	0.10
3	OP (Form B)	C	113	0.66	0.14	0.14	0.66	0.05	0.00	0.40	-0.08	-0.17	0.40
4	OP (Form B)	A	113	0.42	0.42	0.22	0.31	0.05	0.00	0.39	0.39	-0.15	-0.06
5	OP	B	228	0.79	0.14	0.79	0.08	0.00	0.00	0.40	-0.26	0.40	-0.27
6	OP	B	228	0.45	0.15	0.45	0.38	0.02	0.00	0.34	-0.10	0.34	-0.22
7	OP	C	228	0.64	0.17	0.18	0.64	0.01	0.00	0.19	-0.13	-0.07	0.19
8	OP	A	228	0.61	0.61	0.15	0.22	0.02	0.00	0.48	0.48	-0.21	-0.30
9	OP	C	228	0.61	0.10	0.27	0.61	0.02	0.00	0.25	-0.19	-0.05	0.25
10	OP	B	228	0.56	0.11	0.56	0.31	0.02	0.00	0.56	-0.24	0.56	-0.35
11	OP	B	228	0.44	0.15	0.44	0.37	0.03	0.00	0.43	-0.05	0.43	-0.27
12	OP	C	228	0.53	0.24	0.21	0.53	0.02	0.00	0.23	-0.22	0.08	0.23
13	OP	A	228	0.72	0.72	0.11	0.13	0.04	0.00	0.52	0.52	-0.25	-0.25
14	OP	B	228	0.48	0.17	0.48	0.33	0.02	0.00	0.37	-0.14	0.37	-0.18
15	OP	B	228	0.29	0.21	0.29	0.47	0.04	0.00	0.30	-0.08	0.30	-0.04
16	OP	C	228	0.50	0.28	0.18	0.50	0.04	0.00	0.12	0.17	-0.12	0.12
17	OP	B	228	0.42	0.16	0.42	0.39	0.04	0.00	0.38	-0.16	0.38	-0.09
18	OP	B	228	0.58	0.11	0.58	0.28	0.04	0.00	0.51	-0.22	0.51	-0.24
19	OP	C	228	0.68	0.13	0.16	0.68	0.03	0.00	0.41	-0.27	-0.09	0.41
20	OP	A	228	0.42	0.42	0.22	0.33	0.04	0.00	0.41	0.41	-0.04	-0.22
21	OP	B	228	0.45	0.19	0.45	0.33	0.04	0.00	0.32	0.01	0.32	-0.18
22	OP	A	228	0.49	0.49	0.21	0.27	0.04	0.00	0.30	0.30	0.01	-0.18
23	OP	C	228	0.59	0.18	0.19	0.59	0.04	0.00	0.26	-0.07	-0.05	0.26
24	OP	B	228	0.40	0.14	0.40	0.43	0.04	0.00	0.26	-0.06	0.26	-0.05
25	OP	C	228	0.51	0.22	0.23	0.51	0.04	0.00	0.22	-0.07	0.00	0.22
26	OP	C	228	0.68	0.11	0.17	0.68	0.05	0.00	0.45	-0.22	-0.15	0.45
27	OP	B	228	0.33	0.24	0.33	0.40	0.04	0.00	0.30	0.09	0.30	-0.20
28	OP	A	228	0.30	0.30	0.30	0.36	0.04	0.00	0.34	0.34	-0.04	-0.11
29	OP	B	228	0.28	0.26	0.28	0.42	0.04	0.00	0.17	0.12	0.17	-0.10
30	OP	A	228	0.41	0.41	0.23	0.31	0.05	0.00	0.36	0.36	-0.11	-0.08
31	FT	A	115	0.32	0.32	0.30	0.34	0.04	0.00	0.23	0.23	0.07	-0.14
32	FT	C	115	0.51	0.16	0.29	0.51	0.04	0.00	0.27	-0.07	-0.06	0.27
33	FT	A	115	0.25	0.25	0.17	0.53	0.04	0.00	0.17	0.17	0.15	-0.11
34	FT	C	115	0.51	0.12	0.32	0.51	0.04	0.00	0.05	-0.08	0.19	0.05
35	FT	B	115	0.43	0.17	0.43	0.36	0.04	0.00	0.50	-0.03	0.50	-0.32
36	FT	A	115	0.36	0.36	0.21	0.38	0.05	0.00	0.06	0.06	0.16	0.01
37	FT	C	113	0.56	0.16	0.24	0.56	0.04	0.00	0.33	-0.15	-0.04	0.33
38	FT	B	113	0.50	0.11	0.50	0.34	0.06	0.00	0.51	-0.05	0.51	-0.26
39	FT	A	113	0.41	0.41	0.26	0.28	0.05	0.00	0.23	0.23	0.12	-0.15
40	FT	A	113	0.54	0.54	0.16	0.23	0.07	0.00	0.39	0.39	-0.09	-0.13
41	FT	C	113	0.68	0.12	0.16	0.68	0.04	0.00	0.41	-0.08	-0.20	0.41
42	FT	B	113	0.27	0.26	0.27	0.41	0.06	0.00	0.02	0.18	0.02	0.06
43	FT	A	228	0.22	0.22	0.26	0.48	0.04	0.00	-0.01	-0.01	0.09	0.09
44	FT	A	228	0.28	0.28	0.20	0.47	0.04	0.00	0.00	0.00	0.02	0.15

Grade 4 Mathematics

Item	GENERAL		COUNTS		PROPORTIONS					CORRELATIONS			
	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	C	242	0.57	0.18	0.23	0.57	0.01	0.00	0.33	-0.24	-0.10	0.33
2	OP	C	242	0.63	0.16	0.20	0.63	0.01	0.00	0.37	-0.32	-0.10	0.37
3	OP	A	242	0.46	0.46	0.23	0.31	0.00	0.00	0.32	0.32	-0.14	-0.20
4	OP	B	242	0.53	0.17	0.53	0.29	0.01	0.00	0.35	-0.22	0.35	-0.17
5	OP	C	242	0.53	0.25	0.22	0.53	0.00	0.00	0.19	-0.04	-0.17	0.19
6	OP	A	242	0.55	0.55	0.21	0.23	0.00	0.00	0.41	0.41	-0.29	-0.18
7	OP	A	242	0.38	0.38	0.19	0.42	0.00	0.00	0.25	0.25	-0.18	-0.08
8	OP	C	242	0.56	0.25	0.19	0.56	0.00	0.00	0.31	-0.22	-0.13	0.31
9	OP	B	242	0.31	0.31	0.31	0.37	0.01	0.00	0.12	-0.07	0.12	-0.02
10	OP	C	242	0.54	0.19	0.26	0.54	0.01	0.00	0.31	-0.13	-0.18	0.31
11	OP	A	242	0.36	0.36	0.27	0.36	0.01	0.00	0.34	0.34	-0.22	-0.10
12	OP	B	242	0.39	0.24	0.39	0.36	0.02	0.00	0.32	-0.07	0.32	-0.21
13	OP	A	242	0.43	0.43	0.26	0.31	0.01	0.00	0.30	0.30	-0.16	-0.13
14	OP	C	242	0.48	0.24	0.28	0.48	0.01	0.00	0.28	-0.08	-0.18	0.28
15	OP	B	242	0.56	0.15	0.56	0.27	0.02	0.00	0.38	-0.20	0.38	-0.21
16	OP	C	242	0.62	0.17	0.20	0.62	0.01	0.00	0.21	-0.19	-0.01	0.21
17	OP	B	242	0.43	0.17	0.43	0.38	0.01	0.00	0.36	-0.15	0.36	-0.21
18	OP	A	242	0.46	0.46	0.18	0.34	0.02	0.00	0.36	0.36	-0.15	-0.20
19	OP	A	242	0.43	0.43	0.16	0.40	0.01	0.00	0.37	0.37	-0.29	-0.14
20	OP	C	242	0.54	0.17	0.28	0.54	0.02	0.00	0.41	-0.23	-0.19	0.41
21	OP	A	242	0.45	0.45	0.22	0.33	0.01	0.00	0.34	0.34	-0.22	-0.13
22	OP	C	242	0.40	0.34	0.24	0.40	0.02	0.00	0.15	-0.07	-0.03	0.15
23	OP	B	242	0.45	0.15	0.45	0.39	0.01	0.00	0.26	-0.16	0.26	-0.10
24	OP	C	242	0.68	0.15	0.16	0.68	0.02	0.00	0.42	-0.26	-0.20	0.42
25	OP	B	242	0.35	0.26	0.35	0.38	0.02	0.00	0.37	-0.17	0.37	-0.15
26	OP	A	242	0.41	0.41	0.29	0.28	0.03	0.00	0.28	0.28	0.00	-0.22
27	OP	B	242	0.54	0.24	0.54	0.20	0.02	0.00	0.35	-0.18	0.35	-0.17
28	OP	A	242	0.36	0.36	0.21	0.40	0.03	0.00	0.31	0.31	-0.07	-0.17
29	OP	A	242	0.42	0.42	0.20	0.36	0.02	0.00	0.38	0.38	-0.20	-0.17
30	OP	C	242	0.54	0.19	0.25	0.54	0.03	0.00	0.14	-0.02	-0.05	0.14
31	FT	B	116	0.59	0.16	0.59	0.24	0.01	0.00	0.37	-0.25	0.37	-0.18
32	FT	A	116	0.25	0.25	0.34	0.40	0.02	0.00	0.13	0.13	0.04	-0.10
33	FT	C	116	0.46	0.30	0.23	0.46	0.01	0.00	0.01	-0.02	0.04	0.01
34	FT	B	116	0.41	0.24	0.41	0.35	0.01	0.00	0.15	-0.10	0.15	-0.04
35	FT	C	116	0.61	0.21	0.17	0.61	0.01	0.00	0.32	-0.16	-0.21	0.32
36	FT	A	116	0.53	0.53	0.20	0.27	0.01	0.00	0.22	0.22	-0.17	-0.07
37	FT	B	116	0.35	0.27	0.35	0.37	0.01	0.00	0.29	-0.12	0.29	-0.15
38	FT	A	116	0.54	0.54	0.08	0.37	0.01	0.00	0.47	0.47	-0.06	-0.43
39	FT	B	126	0.48	0.26	0.48	0.21	0.04	0.00	0.31	-0.15	0.31	-0.10
40	FT	A	126	0.34	0.34	0.30	0.32	0.04	0.00	0.12	0.12	-0.02	0.00
41	FT	B	126	0.29	0.30	0.29	0.37	0.04	0.00	0.10	0.02	0.10	-0.02
42	FT	C	126	0.63	0.15	0.18	0.63	0.04	0.00	0.41	-0.20	-0.22	0.41
43	FT	A	126	0.43	0.43	0.25	0.27	0.05	0.00	0.27	0.27	-0.06	-0.13
44	FT	A	126	0.59	0.59	0.14	0.23	0.04	0.00	0.43	0.43	-0.20	-0.23
45	FT	C	126	0.64	0.13	0.19	0.64	0.04	0.00	0.41	-0.29	-0.14	0.41
46	FT	A	126	0.34	0.34	0.29	0.33	0.04	0.00	0.21	0.21	-0.08	-0.04

Grade 5 Mathematics

GENERAL		COUNTS			PROPORTIONS					CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	C	257	0.52	0.25	0.21	0.52	0.02	0.00	0.28	-0.20	-0.07	0.28
2	OP	B	257	0.44	0.18	0.44	0.36	0.01	0.00	0.24	0.03	0.24	-0.22
3	OP	A	257	0.61	0.61	0.21	0.18	0.00	0.00	0.36	0.36	-0.25	-0.17
4	OP	B	257	0.35	0.24	0.35	0.40	0.02	0.00	0.34	-0.05	0.34	-0.20
5	OP	C	257	0.58	0.28	0.12	0.58	0.02	0.00	0.15	0.09	-0.21	0.15
6	OP	A	257	0.35	0.35	0.25	0.38	0.02	0.00	0.30	0.30	-0.13	-0.09
7	OP	B	257	0.48	0.21	0.48	0.29	0.03	0.00	0.44	-0.21	0.44	-0.18
8	OP	A	257	0.38	0.38	0.25	0.35	0.02	0.00	0.20	0.20	0.03	-0.15
9	OP	A	257	0.55	0.55	0.22	0.20	0.02	0.00	0.43	0.43	-0.13	-0.29
10	OP	B	257	0.63	0.11	0.63	0.24	0.02	0.00	0.38	-0.11	0.38	-0.25
11	OP	C	257	0.58	0.24	0.16	0.58	0.02	0.00	0.43	-0.28	-0.12	0.43
12	OP	B	257	0.39	0.23	0.39	0.35	0.02	0.00	0.23	-0.12	0.23	-0.04
13	OP	C	257	0.60	0.16	0.21	0.60	0.02	0.00	0.32	-0.25	-0.04	0.32
14	OP	B	257	0.51	0.18	0.51	0.29	0.02	0.00	0.50	-0.30	0.50	-0.20
15	OP	B	257	0.48	0.21	0.48	0.30	0.02	0.00	0.48	-0.17	0.48	-0.27
16	OP	C	257	0.46	0.25	0.27	0.46	0.02	0.00	0.19	-0.17	0.03	0.19
17	OP	A	257	0.41	0.41	0.27	0.30	0.02	0.00	0.28	0.28	-0.02	-0.18
18	OP	B	257	0.37	0.23	0.37	0.38	0.02	0.00	0.35	-0.04	0.35	-0.22
19	OP	C	257	0.42	0.32	0.24	0.42	0.02	0.00	0.22	-0.07	-0.07	0.22
20	OP	B	257	0.53	0.14	0.53	0.32	0.02	0.00	0.33	-0.08	0.33	-0.20
21	OP	A	257	0.51	0.51	0.18	0.29	0.02	0.00	0.47	0.47	-0.24	-0.22
22	OP	C	257	0.42	0.29	0.27	0.42	0.02	0.00	0.09	0.12	-0.12	0.09
23	OP	B	257	0.40	0.24	0.40	0.34	0.02	0.00	0.31	-0.09	0.31	-0.17
24	OP	B	257	0.45	0.16	0.45	0.37	0.02	0.00	0.44	-0.14	0.44	-0.24
25	OP	A	257	0.41	0.41	0.25	0.32	0.02	0.00	0.24	0.24	-0.06	-0.08
26	OP	C	257	0.55	0.23	0.20	0.55	0.02	0.00	0.21	0.00	-0.15	0.21
27	OP	A	257	0.49	0.49	0.26	0.23	0.02	0.00	0.23	0.23	-0.10	-0.07
28	OP	A	257	0.29	0.29	0.30	0.38	0.03	0.00	0.26	0.26	0.02	-0.15
29	OP	C	257	0.54	0.18	0.26	0.54	0.02	0.00	0.18	-0.05	-0.07	0.18
30	OP	C	257	0.53	0.21	0.23	0.53	0.03	0.00	0.39	-0.15	-0.18	0.39
31	FT	B	126	0.44	0.23	0.44	0.31	0.02	0.00	0.26	-0.05	0.26	-0.11
32	FT	A	126	0.45	0.45	0.18	0.33	0.03	0.00	0.34	0.34	-0.06	-0.16
33	FT	C	126	0.53	0.20	0.24	0.53	0.03	0.00	0.41	-0.19	-0.16	0.41
34	FT	A	126	0.53	0.53	0.14	0.29	0.04	0.00	0.28	0.28	-0.02	-0.14
35	FT	A	126	0.35	0.35	0.18	0.44	0.03	0.00	0.28	0.28	-0.12	-0.04
36	FT	B	126	0.32	0.34	0.32	0.32	0.02	0.00	0.00	0.15	0.00	-0.03
37	FT	C	126	0.61	0.17	0.19	0.61	0.03	0.00	0.40	-0.24	-0.09	0.40
38	FT	B	126	0.34	0.25	0.34	0.38	0.02	0.00	0.35	-0.15	0.35	-0.09
39	FT	B	131	0.66	0.15	0.66	0.17	0.02	0.00	0.28	-0.09	0.28	-0.20
40	FT	A	131	0.45	0.45	0.20	0.33	0.02	0.00	0.35	0.35	-0.19	-0.16
41	FT	B	131	0.41	0.22	0.41	0.34	0.03	0.00	0.29	-0.06	0.29	-0.22
42	FT	A	131	0.29	0.29	0.37	0.32	0.02	0.00	0.18	0.18	-0.04	-0.07
43	FT	C	131	0.54	0.19	0.24	0.54	0.03	0.00	-0.08	0.16	-0.02	-0.08
44	FT	A	131	0.50	0.50	0.24	0.24	0.02	0.00	0.44	0.44	-0.20	-0.25
45	FT	C	131	0.44	0.23	0.31	0.44	0.02	0.00	0.08	-0.05	0.02	0.08
46	FT	B	131	0.38	0.20	0.38	0.40	0.02	0.00	0.42	-0.22	0.42	-0.21

Grade 6 Mathematics

GENERAL			COUNTS	PROPORTIONS						CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	A	247	0.76	0.76	0.14	0.10	0.00	0.00	0.40	0.40	-0.28	-0.24
2	OP	B	247	0.46	0.28	0.46	0.26	0.01	0.00	0.45	-0.23	0.45	-0.22
3	OP	B	247	0.43	0.26	0.43	0.29	0.03	0.00	0.37	-0.13	0.37	-0.22
4	OP	C	247	0.65	0.16	0.19	0.65	0.01	0.00	0.39	-0.20	-0.23	0.39
5	OP	B	247	0.72	0.17	0.72	0.10	0.01	0.00	0.38	-0.26	0.38	-0.17
6	OP	C	247	0.46	0.34	0.17	0.46	0.02	0.00	0.24	-0.10	-0.06	0.24
7	OP	A	247	0.52	0.52	0.27	0.19	0.02	0.00	0.35	0.35	-0.11	-0.20
8	OP	C	247	0.50	0.33	0.15	0.50	0.02	0.00	0.21	-0.06	-0.10	0.21
9	OP	C	247	0.60	0.20	0.19	0.60	0.02	0.00	0.38	-0.14	-0.22	0.38
10	OP	B	247	0.41	0.19	0.41	0.37	0.03	0.00	0.34	-0.20	0.34	-0.06
11	OP	A	247	0.59	0.59	0.15	0.24	0.02	0.00	0.36	0.36	-0.21	-0.12
12	OP	B	247	0.40	0.24	0.40	0.35	0.02	0.00	0.33	-0.12	0.33	-0.13
13	OP	A	247	0.56	0.56	0.21	0.21	0.02	0.00	0.37	0.37	-0.08	-0.23
14	OP	B	247	0.50	0.22	0.50	0.25	0.02	0.00	0.41	-0.16	0.41	-0.19
15	OP	B	247	0.39	0.24	0.39	0.34	0.02	0.00	0.35	-0.09	0.35	-0.18
16	OP	C	247	0.62	0.16	0.20	0.62	0.02	0.00	0.24	-0.19	0.02	0.24
17	OP	A	247	0.34	0.34	0.28	0.35	0.03	0.00	0.15	0.15	-0.10	0.07
18	OP	A	247	0.55	0.55	0.22	0.21	0.02	0.00	0.39	0.39	-0.14	-0.19
19	OP	C	247	0.58	0.22	0.17	0.58	0.03	0.00	0.38	-0.16	-0.15	0.38
20	OP	C	247	0.47	0.28	0.22	0.47	0.03	0.00	0.13	0.06	-0.07	0.13
21	OP	B	247	0.57	0.16	0.57	0.25	0.03	0.00	0.46	-0.17	0.46	-0.24
22	OP	A	247	0.50	0.50	0.22	0.26	0.03	0.00	0.30	0.30	-0.11	-0.08
23	OP	C	247	0.49	0.21	0.27	0.49	0.03	0.00	0.22	-0.09	-0.03	0.22
24	OP	B	247	0.59	0.22	0.59	0.16	0.03	0.00	0.40	-0.15	0.40	-0.18
25	OP	A	247	0.51	0.51	0.23	0.23	0.03	0.00	0.27	0.27	-0.03	-0.13
26	OP	B	247	0.32	0.25	0.32	0.41	0.03	0.00	0.43	-0.17	0.43	-0.13
27	OP	B	247	0.37	0.26	0.37	0.34	0.03	0.00	0.13	-0.03	0.13	0.03
28	OP	A	247	0.46	0.46	0.23	0.28	0.03	0.00	0.37	0.37	-0.10	-0.17
29	OP	C	247	0.58	0.18	0.21	0.58	0.03	0.00	0.28	-0.13	-0.06	0.28
30	OP	B	247	0.26	0.24	0.26	0.47	0.03	0.00	0.24	-0.07	0.24	-0.01
31	FT	A	120	0.32	0.32	0.20	0.43	0.05	0.00	0.19	0.19	0.03	0.02
32	FT	A	120	0.40	0.40	0.23	0.32	0.05	0.00	0.35	0.35	0.07	-0.19
33	FT	C	120	0.34	0.31	0.30	0.34	0.05	0.00	-0.07	0.14	0.17	-0.07
34	FT	B	120	0.45	0.25	0.45	0.24	0.06	0.00	0.39	0.00	0.39	-0.17
35	FT	B	120	0.28	0.26	0.28	0.42	0.05	0.00	0.19	0.06	0.19	0.00
36	FT	C	120	0.55	0.18	0.22	0.55	0.05	0.00	0.35	-0.05	-0.11	0.35
37	FT	A	120	0.31	0.31	0.35	0.28	0.06	0.00	0.17	0.17	0.22	-0.14
38	FT	B	120	0.48	0.15	0.48	0.33	0.05	0.00	0.34	-0.10	0.34	-0.04
39	FT	A	127	0.39	0.39	0.16	0.43	0.02	0.00	0.28	0.28	-0.22	-0.09
40	FT	A	127	0.58	0.58	0.16	0.24	0.02	0.00	0.45	0.45	-0.20	-0.32
41	FT	C	127	0.46	0.18	0.34	0.46	0.02	0.00	0.16	-0.17	0.00	0.16
42	FT	B	127	0.39	0.17	0.39	0.41	0.02	0.00	0.21	-0.25	0.21	0.01
43	FT	B	127	0.60	0.14	0.60	0.23	0.03	0.00	0.39	-0.31	0.39	-0.16
44	FT	C	127	0.51	0.19	0.27	0.51	0.03	0.00	0.33	-0.20	-0.15	0.33
45	FT	A	127	0.56	0.56	0.14	0.28	0.02	0.00	0.41	0.41	-0.12	-0.34
46	FT	A	127	0.37	0.37	0.23	0.38	0.02	0.00	0.19	0.19	-0.13	-0.06

Grade 7 Mathematics

GENERAL		COUNTS			PROPORTIONS					CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	A	229	0.40	0.40	0.27	0.32	0.01	0.00	0.25	0.25	0.03	-0.25
2	OP	C	229	0.47	0.25	0.27	0.47	0.02	0.00	0.16	-0.01	-0.08	0.16
3	OP	B	229	0.58	0.18	0.58	0.22	0.03	0.00	0.44	-0.17	0.44	-0.23
4	OP	A	229	0.55	0.55	0.22	0.21	0.03	0.00	0.32	0.32	-0.01	-0.22
5	OP	B	229	0.42	0.25	0.42	0.29	0.04	0.00	0.29	-0.04	0.29	-0.09
6	OP	B	229	0.47	0.18	0.47	0.31	0.04	0.00	0.32	-0.08	0.32	-0.09
7	OP	C	229	0.70	0.15	0.12	0.70	0.04	0.00	0.43	-0.17	-0.16	0.43
8	OP	C	229	0.66	0.15	0.16	0.66	0.03	0.00	0.32	-0.09	-0.12	0.32
9	OP	B	229	0.49	0.17	0.49	0.29	0.05	0.00	0.39	-0.07	0.39	-0.15
10	OP	B	229	0.65	0.14	0.65	0.17	0.05	0.00	0.57	-0.22	0.57	-0.22
11	OP	A	229	0.52	0.52	0.21	0.22	0.04	0.00	0.46	0.46	-0.25	-0.07
12	OP	C	229	0.48	0.19	0.27	0.48	0.06	0.00	0.18	0.02	0.07	0.18
13	OP	A	229	0.51	0.51	0.20	0.24	0.06	0.00	0.34	0.34	-0.06	-0.04
14	OP	C	229	0.53	0.09	0.32	0.53	0.06	0.00	0.19	-0.09	0.14	0.19
15	OP	A	229	0.39	0.39	0.22	0.33	0.06	0.00	0.21	0.21	0.09	0.00
16	OP	C	229	0.55	0.19	0.20	0.55	0.06	0.00	0.25	0.03	-0.01	0.25
17	OP	B	229	0.59	0.12	0.59	0.22	0.07	0.00	0.53	-0.18	0.53	-0.14
18	OP	C	229	0.48	0.22	0.24	0.48	0.07	0.00	0.21	0.03	0.05	0.21
19	OP	B	229	0.52	0.10	0.52	0.31	0.07	0.00	0.45	-0.12	0.45	-0.10
20	OP	C	229	0.40	0.24	0.30	0.40	0.07	0.00	0.07	0.12	0.12	0.07
21	OP	A	229	0.38	0.38	0.21	0.35	0.07	0.00	0.26	0.26	0.02	0.01
22	OP	C	229	0.52	0.15	0.26	0.52	0.07	0.00	0.31	-0.15	0.09	0.31
23	OP	B	229	0.45	0.20	0.45	0.28	0.07	0.00	0.45	-0.09	0.45	-0.10
24	OP	A	229	0.51	0.51	0.16	0.27	0.07	0.00	0.47	0.47	-0.08	-0.15
25	OP	B	229	0.25	0.31	0.25	0.37	0.07	0.00	0.13	0.30	0.13	-0.11
26	OP	A	229	0.33	0.33	0.28	0.33	0.07	0.00	0.22	0.22	0.18	-0.09
27	OP	B	229	0.47	0.11	0.47	0.36	0.07	0.00	0.49	-0.11	0.49	-0.14
28	OP	A	229	0.41	0.41	0.24	0.28	0.07	0.00	0.32	0.32	0.06	-0.09
29	OP	C	229	0.45	0.20	0.29	0.45	0.07	0.00	0.18	-0.02	0.13	0.18
30	OP	C	229	0.62	0.14	0.18	0.62	0.07	0.00	0.37	-0.09	-0.03	0.37
31	FT	A	110	0.68	0.68	0.09	0.13	0.10	0.00	0.60	0.60	-0.05	-0.17
32	FT	B	110	0.29	0.39	0.29	0.22	0.10	0.00	0.19	0.25	0.19	0.00
33	FT	B	110	0.20	0.26	0.20	0.45	0.10	0.00	0.12	0.17	0.12	0.18
34	FT	A	110	0.71	0.71	0.10	0.09	0.10	0.00	0.62	0.62	-0.07	-0.19
35	FT	C	110	0.39	0.26	0.26	0.39	0.10	0.00	0.22	0.16	0.07	0.22
36	FT	A	110	0.20	0.20	0.42	0.28	0.10	0.00	0.21	0.21	0.21	0.04
37	FT	A	110	0.26	0.26	0.20	0.44	0.10	0.00	0.29	0.29	0.09	0.09
38	FT	B	110	0.53	0.10	0.53	0.27	0.10	0.00	0.58	-0.16	0.58	-0.08
39	FT	B	119	0.28	0.35	0.28	0.33	0.04	0.00	0.35	0.01	0.35	-0.16
40	FT	B	119	0.40	0.18	0.40	0.39	0.04	0.00	0.43	-0.12	0.43	-0.16
41	FT	A	119	0.44	0.44	0.24	0.29	0.04	0.00	0.39	0.39	-0.09	-0.15
42	FT	B	119	0.53	0.13	0.53	0.30	0.04	0.00	0.48	-0.17	0.48	-0.21
43	FT	A	119	0.33	0.33	0.35	0.28	0.04	0.00	0.38	0.38	0.02	-0.22
44	FT	B	119	0.64	0.13	0.64	0.19	0.04	0.00	0.57	-0.24	0.57	-0.29
45	FT	C	119	0.55	0.24	0.17	0.55	0.04	0.00	0.28	-0.08	-0.06	0.28
46	FT	A	119	0.50	0.50	0.27	0.19	0.04	0.00	0.44	0.44	-0.23	-0.08

Grade 8 Mathematics

GENERAL		COUNTS			PROPORTIONS					CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	C	247	0.56	0.17	0.27	0.56	0.00	0.00	0.18	-0.19	-0.03	0.18
2	OP	B	247	0.41	0.26	0.41	0.32	0.02	0.00	0.23	-0.09	0.23	-0.10
3	OP	A	247	0.38	0.38	0.22	0.39	0.01	0.00	0.41	0.41	-0.18	-0.21
4	OP	C	247	0.41	0.26	0.30	0.41	0.02	0.00	0.13	-0.08	0.03	0.13
5	OP	A	247	0.42	0.42	0.28	0.28	0.02	0.00	0.29	0.29	-0.13	-0.09
6	OP	B	247	0.53	0.18	0.53	0.27	0.02	0.00	0.29	-0.15	0.29	-0.10
7	OP	A	247	0.36	0.36	0.30	0.32	0.02	0.00	0.30	0.30	-0.02	-0.18
8	OP	C	247	0.54	0.18	0.24	0.54	0.03	0.00	0.25	-0.11	-0.03	0.25
9	OP	B	247	0.50	0.24	0.50	0.23	0.03	0.00	0.30	-0.06	0.30	-0.13
10	OP	B	247	0.33	0.17	0.33	0.47	0.03	0.00	0.19	-0.11	0.19	0.05
11	OP	C	247	0.66	0.09	0.20	0.66	0.05	0.00	0.43	-0.15	-0.16	0.43
12	OP	A	247	0.60	0.60	0.21	0.15	0.05	0.00	0.47	0.47	-0.13	-0.25
13	OP	B	247	0.45	0.19	0.45	0.31	0.04	0.00	0.40	-0.12	0.40	-0.14
14	OP	B	247	0.53	0.15	0.53	0.28	0.05	0.00	0.53	-0.20	0.53	-0.22
15	OP	A	247	0.50	0.50	0.22	0.24	0.04	0.00	0.35	0.35	-0.12	-0.09
16	OP	A	247	0.40	0.40	0.27	0.29	0.05	0.00	0.37	0.37	-0.03	-0.16
17	OP	C	247	0.68	0.13	0.15	0.68	0.05	0.00	0.43	-0.14	-0.17	0.43
18	OP	A	247	0.63	0.63	0.17	0.16	0.05	0.00	0.39	0.39	-0.11	-0.15
19	OP	B	247	0.44	0.26	0.44	0.26	0.04	0.00	0.31	-0.03	0.31	-0.12
20	OP	B	247	0.44	0.30	0.44	0.22	0.05	0.00	0.38	-0.07	0.38	-0.15
21	OP	C	247	0.45	0.22	0.28	0.45	0.05	0.00	0.28	-0.12	0.01	0.28
22	OP	C	247	0.55	0.19	0.22	0.55	0.05	0.00	0.16	0.06	-0.02	0.16
23	OP	B	247	0.45	0.20	0.45	0.30	0.05	0.00	0.45	-0.10	0.45	-0.19
24	OP	A	247	0.61	0.61	0.14	0.20	0.05	0.00	0.40	0.40	-0.12	-0.15
25	OP	C	247	0.59	0.18	0.19	0.59	0.05	0.00	0.35	-0.06	-0.15	0.35
26	OP	A	247	0.29	0.29	0.19	0.47	0.05	0.00	0.15	0.15	-0.15	0.16
27	OP	C	247	0.52	0.22	0.22	0.52	0.05	0.00	0.36	-0.07	-0.14	0.36
28	OP	C	247	0.76	0.11	0.09	0.76	0.05	0.00	0.44	-0.17	-0.16	0.44
29	OP	B	247	0.43	0.17	0.43	0.36	0.05	0.00	0.39	-0.06	0.39	-0.16
30	OP	B	247	0.39	0.26	0.39	0.29	0.05	0.00	0.24	-0.01	0.24	-0.03
31	FT	A	126	0.38	0.38	0.27	0.29	0.06	0.00	0.45	0.45	-0.04	-0.19
32	FT	A	126	0.28	0.28	0.30	0.36	0.06	0.00	0.28	0.28	0.11	-0.12
33	FT	C	126	0.37	0.26	0.30	0.37	0.06	0.00	0.10	-0.04	0.20	0.10
34	FT	A	126	0.46	0.46	0.14	0.34	0.06	0.00	0.44	0.44	0.00	-0.23
35	FT	B	126	0.37	0.22	0.37	0.34	0.06	0.00	0.30	-0.08	0.30	0.02
36	FT	A	126	0.43	0.43	0.23	0.28	0.06	0.00	0.42	0.42	-0.02	-0.18
37	FT	C	126	0.60	0.24	0.10	0.60	0.06	0.00	0.53	-0.20	-0.18	0.53
38	FT	C	126	0.52	0.18	0.25	0.52	0.06	0.00	0.41	-0.07	-0.14	0.41
39	FT	A	121	0.28	0.28	0.23	0.44	0.05	0.00	0.21	0.21	-0.03	-0.06
40	FT	A	121	0.53	0.53	0.24	0.18	0.05	0.00	0.30	0.30	-0.02	-0.23
41	FT	B	121	0.41	0.24	0.41	0.30	0.05	0.00	0.42	-0.08	0.42	-0.27
42	FT	C	121	0.51	0.23	0.21	0.51	0.05	0.00	0.33	-0.16	-0.12	0.33
43	FT	A	121	0.58	0.58	0.17	0.20	0.06	0.00	0.35	0.35	-0.09	-0.19
44	FT	C	121	0.60	0.16	0.19	0.60	0.05	0.00	0.41	-0.08	-0.30	0.41
45	FT	A	121	0.40	0.40	0.19	0.36	0.05	0.00	0.23	0.23	-0.01	-0.12
46	FT	B	121	0.37	0.29	0.37	0.29	0.05	0.00	0.21	-0.02	0.21	-0.10

High School Mathematics

GENERAL		COUNTS			PROPORTIONS					CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	C	222	0.61	0.14	0.24	0.61	0.01	0.00	0.45	-0.24	-0.27	0.45
2	OP	B	222	0.63	0.06	0.63	0.30	0.01	0.00	0.35	-0.21	0.35	-0.21
3	OP	A	222	0.50	0.50	0.21	0.27	0.03	0.00	0.35	0.35	-0.12	-0.15
4	OP	C	222	0.56	0.17	0.24	0.56	0.02	0.00	0.41	-0.14	-0.23	0.41
5	OP	C	222	0.65	0.14	0.19	0.65	0.02	0.00	0.40	-0.23	-0.18	0.40
6	OP	A	222	0.48	0.48	0.21	0.29	0.02	0.00	0.42	0.42	-0.18	-0.19
7	OP	C	222	0.55	0.25	0.18	0.55	0.03	0.00	0.35	-0.08	-0.17	0.35
8	OP	B	222	0.41	0.09	0.41	0.46	0.03	0.00	0.30	-0.16	0.30	-0.06
9	OP	C	222	0.58	0.10	0.29	0.58	0.03	0.00	0.32	-0.13	-0.11	0.32
10	OP	A	222	0.32	0.32	0.36	0.29	0.03	0.00	0.17	0.17	0.11	-0.13
11	OP	A	222	0.63	0.63	0.19	0.16	0.03	0.00	0.50	0.50	-0.25	-0.22
12	OP	B	222	0.28	0.16	0.28	0.53	0.03	0.00	0.11	-0.13	0.11	0.13
13	OP	A	222	0.41	0.41	0.26	0.31	0.03	0.00	0.34	0.34	-0.01	-0.19
14	OP	C	222	0.57	0.21	0.20	0.57	0.02	0.00	0.27	-0.10	-0.10	0.27
15	OP	B	222	0.63	0.16	0.63	0.19	0.02	0.00	0.45	-0.20	0.45	-0.23
16	OP	B	222	0.64	0.15	0.64	0.19	0.02	0.00	0.43	-0.12	0.43	-0.29
17	OP	A	222	0.32	0.32	0.31	0.33	0.03	0.00	0.33	0.33	-0.10	-0.08
18	OP	B	222	0.45	0.16	0.45	0.36	0.03	0.00	0.39	-0.09	0.39	-0.20
19	OP	B	222	0.46	0.13	0.46	0.39	0.03	0.00	0.23	0.10	0.23	-0.17
20	OP	C	222	0.61	0.17	0.19	0.61	0.03	0.00	0.39	-0.15	-0.15	0.39
21	OP	A	222	0.56	0.56	0.19	0.22	0.03	0.00	0.53	0.53	-0.19	-0.28
22	OP	B	222	0.58	0.16	0.58	0.23	0.03	0.00	0.43	-0.12	0.43	-0.23
23	OP	C	222	0.65	0.16	0.16	0.65	0.03	0.00	0.46	-0.20	-0.20	0.46
24	OP	A	222	0.33	0.33	0.32	0.32	0.04	0.00	0.25	0.25	0.02	-0.11
25	OP	C	222	0.68	0.12	0.16	0.68	0.04	0.00	0.42	-0.21	-0.15	0.42
26	OP	B	222	0.64	0.12	0.64	0.21	0.03	0.00	0.58	-0.27	0.58	-0.29
27	OP	C	222	0.54	0.16	0.27	0.54	0.03	0.00	0.23	-0.04	-0.07	0.23
28	OP	B	222	0.54	0.16	0.54	0.28	0.02	0.00	0.45	-0.09	0.45	-0.31
29	OP	A	222	0.53	0.53	0.25	0.20	0.02	0.00	0.17	0.17	0.00	-0.08
30	OP	B	222	0.43	0.17	0.43	0.37	0.03	0.00	0.17	-0.07	0.17	0.02
31	FT	C	119	0.62	0.16	0.19	0.62	0.03	0.00	0.48	-0.26	-0.15	0.48
32	FT	A	119	0.29	0.29	0.40	0.30	0.02	0.00	0.01	0.01	0.34	-0.28
33	FT	A	119	0.34	0.34	0.27	0.35	0.04	0.00	0.24	0.24	-0.03	-0.06
34	FT	B	119	0.48	0.23	0.48	0.26	0.03	0.00	0.28	0.14	0.28	-0.27
35	FT	A	119	0.57	0.57	0.20	0.19	0.04	0.00	0.48	0.48	-0.12	-0.24
36	FT	C	119	0.77	0.08	0.12	0.77	0.03	0.00	0.42	-0.12	-0.21	0.42
37	FT	A	119	0.51	0.51	0.19	0.27	0.03	0.00	0.48	0.48	-0.13	-0.25
38	FT	B	119	0.40	0.11	0.40	0.45	0.03	0.00	0.33	-0.20	0.33	-0.04
39	FT	C	103	0.47	0.19	0.31	0.47	0.03	0.00	0.39	-0.11	-0.18	0.39
40	FT	A	103	0.47	0.47	0.23	0.27	0.03	0.00	0.44	0.44	-0.19	-0.16
41	FT	B	103	0.37	0.32	0.37	0.28	0.03	0.00	0.15	0.02	0.15	-0.03
42	FT	B	103	0.50	0.18	0.50	0.30	0.03	0.00	0.40	-0.21	0.40	-0.11
43	FT	A	103	0.61	0.61	0.20	0.16	0.03	0.00	0.50	0.50	-0.24	-0.22
44	FT	C	103	0.57	0.19	0.20	0.57	0.03	0.00	0.46	-0.25	-0.15	0.46
45	FT	A	103	0.54	0.54	0.22	0.20	0.03	0.00	0.37	0.37	-0.18	-0.11
46	FT	C	103	0.59	0.22	0.16	0.59	0.03	0.00	0.46	-0.30	-0.10	0.46

Appendix H:

Science Key Verification and Foil Analysis

Grade 5 Science

Item	GENERAL		COUNTS		PROPORTIONS					CORRELATIONS			
	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	C	256	0.70	0.16	0.13	0.70	0.01	0.00	0.41	-0.27	-0.21	0.41
2	OP	C	256	0.75	0.11	0.14	0.75	0.00	0.00	0.28	-0.10	-0.24	0.28
3	OP	A	256	0.56	0.56	0.25	0.19	0.00	0.00	0.39	0.39	-0.20	-0.24
4	OP	B	256	0.65	0.13	0.65	0.22	0.01	0.00	0.50	-0.35	0.50	-0.25
5	OP	C	256	0.71	0.14	0.13	0.71	0.02	0.00	0.39	-0.20	-0.20	0.39
6	OP	C	256	0.70	0.11	0.17	0.70	0.02	0.00	0.27	-0.19	-0.08	0.27
7	OP	B	256	0.40	0.23	0.40	0.37	0.01	0.00	0.27	-0.08	0.27	-0.14
8	OP	B	256	0.71	0.08	0.71	0.18	0.02	0.00	0.46	-0.26	0.46	-0.26
9	OP	A	256	0.53	0.53	0.20	0.26	0.02	0.00	0.29	0.29	-0.02	-0.24
10	OP	B	256	0.55	0.14	0.55	0.30	0.01	0.00	0.46	-0.24	0.46	-0.25
11	OP	C	256	0.67	0.14	0.18	0.67	0.01	0.00	0.26	-0.06	-0.19	0.26
12	OP	B	256	0.47	0.13	0.47	0.39	0.02	0.00	0.40	-0.18	0.40	-0.22
13	OP	B	256	0.44	0.21	0.44	0.33	0.02	0.00	0.40	-0.11	0.40	-0.25
14	OP	C	256	0.61	0.15	0.22	0.61	0.02	0.00	0.29	-0.11	-0.14	0.29
15	OP	A	256	0.59	0.59	0.24	0.16	0.01	0.00	0.39	0.39	-0.21	-0.22
16	OP	A	256	0.44	0.44	0.24	0.31	0.02	0.00	0.30	0.30	-0.07	-0.19
17	OP	C	256	0.56	0.25	0.18	0.56	0.02	0.00	0.16	-0.06	-0.06	0.16
18	OP	A	256	0.75	0.75	0.09	0.15	0.01	0.00	0.37	0.37	-0.19	-0.24
19	OP	B	256	0.36	0.22	0.36	0.41	0.02	0.00	0.24	-0.09	0.24	-0.08
20	OP	C	256	0.77	0.12	0.09	0.77	0.02	0.00	0.45	-0.27	-0.25	0.45
21	OP	A	256	0.60	0.60	0.15	0.25	0.01	0.00	0.38	0.38	-0.13	-0.26
22	OP	C	256	0.62	0.22	0.15	0.62	0.02	0.00	0.29	-0.20	-0.07	0.29
23	OP	C	256	0.59	0.24	0.16	0.59	0.01	0.00	0.28	-0.10	-0.20	0.28
24	OP	B	256	0.51	0.16	0.51	0.31	0.01	0.00	0.43	-0.16	0.43	-0.28
25	OP	B	256	0.29	0.32	0.29	0.37	0.02	0.00	0.33	-0.22	0.33	-0.02
26	FT	C	124	0.67	0.16	0.15	0.67	0.02	0.00	0.34	-0.20	-0.13	0.34
27	FT	A	124	0.34	0.34	0.18	0.47	0.02	0.00	0.21	0.21	0.09	-0.21
28	FT	B	124	0.44	0.13	0.44	0.41	0.02	0.00	0.54	-0.30	0.54	-0.29
29	FT	A	124	0.40	0.40	0.29	0.30	0.01	0.00	0.24	0.24	0.03	-0.24
30	FT	B	124	0.57	0.11	0.57	0.30	0.02	0.00	0.49	-0.26	0.49	-0.27
31	FT	C	124	0.61	0.17	0.20	0.61	0.02	0.00	0.22	-0.11	-0.06	0.22
32	FT	B	124	0.40	0.19	0.40	0.40	0.02	0.00	0.54	-0.20	0.54	-0.30
33	FT	A	124	0.36	0.36	0.19	0.42	0.02	0.00	0.20	0.20	-0.08	-0.05
34	FT	A	132	0.33	0.33	0.36	0.29	0.02	0.00	0.37	0.37	-0.36	0.08
35	FT	C	132	0.73	0.17	0.09	0.73	0.02	0.00	0.54	-0.39	-0.25	0.54
36	FT	B	132	0.32	0.24	0.32	0.42	0.02	0.00	0.04	0.07	0.04	-0.02
37	FT	A	132	0.58	0.58	0.21	0.19	0.02	0.00	0.43	0.43	-0.21	-0.22
38	FT	C	132	0.44	0.29	0.25	0.44	0.02	0.00	0.05	-0.04	0.08	0.05
39	FT	B	132	0.53	0.18	0.53	0.27	0.02	0.00	0.32	-0.03	0.32	-0.26
40	FT	C	132	0.58	0.18	0.22	0.58	0.02	0.00	0.25	-0.18	-0.04	0.25
41	FT	B	132	0.40	0.25	0.40	0.33	0.02	0.00	0.52	-0.40	0.52	-0.10

Grade 8 Science

GENERAL		COUNTS			PROPORTIONS					CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	B	245	0.57	0.22	0.57	0.21	0.00	0.00	0.42	-0.20	0.42	-0.30
2	OP	A	245	0.54	0.54	0.15	0.31	0.00	0.00	0.46	0.46	-0.21	-0.31
3	OP	C	245	0.58	0.18	0.22	0.58	0.02	0.00	0.38	-0.11	-0.28	0.38
4	OP	B	245	0.46	0.24	0.46	0.28	0.02	0.00	0.28	0.06	0.28	-0.25
5	OP	A	245	0.65	0.65	0.16	0.17	0.03	0.00	0.50	0.50	-0.27	-0.23
6	OP	C	245	0.69	0.14	0.15	0.69	0.02	0.00	0.37	-0.14	-0.17	0.37
7	OP	C	245	0.69	0.13	0.16	0.69	0.03	0.00	0.44	-0.21	-0.19	0.44
8	OP	A	245	0.36	0.36	0.31	0.30	0.03	0.00	0.27	0.27	0.05	-0.17
9	OP	B	245	0.62	0.23	0.62	0.11	0.05	0.00	0.43	-0.12	0.43	-0.22
10	OP	C	245	0.68	0.14	0.14	0.68	0.05	0.00	0.47	-0.20	-0.18	0.47
11	OP	B	245	0.47	0.18	0.47	0.31	0.04	0.00	0.42	-0.20	0.42	-0.11
12	OP	C	245	0.61	0.16	0.18	0.61	0.05	0.00	0.46	-0.13	-0.22	0.46
13	OP	B	245	0.76	0.10	0.76	0.10	0.05	0.00	0.49	-0.17	0.49	-0.23
14	OP	C	245	0.58	0.18	0.20	0.58	0.04	0.00	0.38	-0.16	-0.11	0.38
15	OP	B	245	0.63	0.11	0.63	0.22	0.04	0.00	0.51	-0.20	0.51	-0.23
16	OP	A	245	0.45	0.45	0.25	0.25	0.04	0.00	0.40	0.40	-0.15	-0.10
17	OP	C	245	0.67	0.08	0.21	0.67	0.04	0.00	0.48	-0.16	-0.23	0.48
18	OP	A	245	0.45	0.45	0.23	0.27	0.05	0.00	0.30	0.30	0.04	-0.18
19	OP	A	245	0.49	0.49	0.23	0.23	0.05	0.00	0.42	0.42	-0.15	-0.13
20	OP	B	245	0.28	0.28	0.28	0.40	0.05	0.00	0.09	0.07	0.09	0.03
21	OP	B	245	0.50	0.19	0.50	0.27	0.05	0.00	0.49	-0.12	0.49	-0.25
22	OP	C	245	0.76	0.09	0.11	0.76	0.05	0.00	0.54	-0.25	-0.24	0.54
23	OP	A	245	0.42	0.42	0.18	0.36	0.05	0.00	0.33	0.33	-0.17	-0.02
24	OP	A	245	0.49	0.49	0.18	0.29	0.05	0.00	0.46	0.46	-0.16	-0.17
25	OP	B	245	0.45	0.19	0.45	0.31	0.05	0.00	0.42	-0.05	0.42	-0.20
26	FT	A	124	0.36	0.36	0.27	0.32	0.05	0.00	0.22	0.22	-0.02	-0.03
27	FT	B	124	0.72	0.11	0.72	0.12	0.06	0.00	0.65	-0.34	0.65	-0.31
28	FT	C	124	0.50	0.19	0.25	0.50	0.06	0.00	0.32	-0.06	-0.11	0.32
29	FT	A	124	0.41	0.41	0.21	0.32	0.06	0.00	0.38	0.38	-0.10	-0.12
30	FT	C	124	0.39	0.19	0.37	0.39	0.06	0.00	-0.05	-0.11	0.33	-0.05
31	FT	A	124	0.41	0.41	0.27	0.27	0.05	0.00	0.25	0.25	-0.15	0.06
32	FT	B	124	0.44	0.19	0.44	0.32	0.06	0.00	0.41	-0.04	0.41	-0.25
33	FT	B	124	0.50	0.20	0.50	0.25	0.05	0.00	0.43	-0.21	0.43	-0.11
34	FT	B	121	0.29	0.24	0.29	0.41	0.07	0.00	0.10	0.07	0.10	0.01
35	FT	C	121	0.71	0.07	0.16	0.71	0.07	0.00	0.33	-0.16	-0.08	0.33
36	FT	B	121	0.49	0.20	0.49	0.25	0.07	0.00	0.38	-0.04	0.38	-0.22
37	FT	A	121	0.31	0.31	0.18	0.45	0.07	0.00	0.11	0.11	0.11	-0.03
38	FT	B	121	0.79	0.08	0.79	0.06	0.07	0.00	0.47	-0.21	0.47	-0.23
39	FT	C	121	0.50	0.18	0.26	0.50	0.07	0.00	0.28	-0.17	0.01	0.28
40	FT	A	121	0.46	0.46	0.20	0.27	0.07	0.00	0.33	0.33	-0.01	-0.18
41	FT	B	121	0.52	0.17	0.52	0.24	0.07	0.00	0.35	-0.06	0.35	-0.17

High School Science

GENERAL		COUNTS			PROPORTIONS					CORRELATIONS			
Item	Usage	Key	N	p-value	A	B	C	-	*	Total	A	B	C
1	OP	B	221	0.73	0.09	0.73	0.17	0.01	0.00	0.46	-0.18	0.46	-0.38
2	OP	A	221	0.52	0.52	0.16	0.30	0.02	0.00	0.49	0.49	-0.21	-0.25
3	OP	A	221	0.64	0.64	0.17	0.17	0.02	0.00	0.56	0.56	-0.20	-0.38
4	OP	C	221	0.57	0.24	0.18	0.57	0.02	0.00	0.24	0.06	-0.24	0.24
5	OP	B	221	0.80	0.09	0.80	0.09	0.02	0.00	0.46	-0.20	0.46	-0.30
6	OP	B	221	0.61	0.14	0.61	0.23	0.02	0.00	0.40	-0.09	0.40	-0.27
7	OP	A	221	0.67	0.67	0.13	0.17	0.03	0.00	0.62	0.62	-0.25	-0.39
8	OP	A	221	0.65	0.65	0.15	0.19	0.02	0.00	0.59	0.59	-0.38	-0.24
9	OP	B	221	0.54	0.15	0.54	0.28	0.03	0.00	0.36	0.01	0.36	-0.26
10	OP	C	221	0.72	0.14	0.12	0.72	0.02	0.00	0.35	-0.14	-0.17	0.35
11	OP	A	221	0.48	0.48	0.28	0.22	0.03	0.00	0.34	0.34	-0.04	-0.21
12	OP	B	221	0.69	0.09	0.69	0.19	0.03	0.00	0.62	-0.21	0.62	-0.39
13	OP	B	221	0.64	0.12	0.64	0.21	0.03	0.00	0.36	-0.18	0.36	-0.11
14	OP	C	221	0.63	0.14	0.20	0.63	0.03	0.00	0.38	-0.05	-0.24	0.38
15	OP	A	221	0.63	0.63	0.18	0.16	0.03	0.00	0.63	0.63	-0.31	-0.31
16	OP	B	221	0.48	0.20	0.48	0.29	0.03	0.00	0.46	-0.12	0.46	-0.25
17	OP	B	221	0.45	0.24	0.45	0.27	0.03	0.00	0.34	-0.04	0.34	-0.18
18	OP	A	221	0.39	0.39	0.31	0.27	0.03	0.00	0.34	0.34	-0.05	-0.16
19	OP	C	221	0.67	0.14	0.16	0.67	0.03	0.00	0.43	-0.13	-0.24	0.43
20	OP	A	221	0.38	0.38	0.22	0.37	0.03	0.00	0.34	0.34	-0.12	-0.09
21	OP	C	221	0.56	0.10	0.31	0.56	0.02	0.00	0.44	-0.22	-0.22	0.44
22	OP	A	221	0.54	0.54	0.28	0.15	0.03	0.00	0.34	0.34	-0.01	-0.26
23	OP	B	221	0.58	0.21	0.58	0.19	0.03	0.00	0.54	-0.14	0.54	-0.36
24	OP	C	221	0.70	0.11	0.16	0.70	0.03	0.00	0.43	-0.22	-0.19	0.43
25	OP	B	221	0.43	0.29	0.43	0.24	0.04	0.00	0.42	-0.06	0.42	-0.24
26	OP	C	221	0.58	0.23	0.15	0.58	0.03	0.00	0.25	-0.06	-0.08	0.25
27	OP	A	221	0.47	0.47	0.18	0.33	0.03	0.00	0.43	0.43	-0.10	-0.22
28	OP	C	221	0.45	0.26	0.26	0.45	0.03	0.00	0.19	-0.07	0.01	0.19
29	FT	A	118	0.34	0.34	0.31	0.32	0.03	0.00	0.16	0.16	0.13	-0.16
30	FT	C	118	0.49	0.29	0.20	0.49	0.02	0.00	-0.06	0.26	-0.12	-0.06
31	FT	B	118	0.75	0.06	0.75	0.17	0.03	0.00	0.50	-0.23	0.50	-0.27
32	FT	B	118	0.57	0.19	0.57	0.22	0.03	0.00	0.46	-0.11	0.46	-0.30
33	FT	C	118	0.50	0.14	0.33	0.50	0.03	0.00	-0.07	-0.18	0.33	-0.07
34	FT	B	118	0.51	0.20	0.51	0.27	0.03	0.00	0.38	0.04	0.38	-0.32
35	FT	B	118	0.54	0.14	0.54	0.29	0.03	0.00	0.56	-0.23	0.56	-0.31
36	FT	A	118	0.34	0.34	0.36	0.28	0.03	0.00	0.29	0.29	0.14	-0.32
37	FT	B	103	0.62	0.14	0.62	0.20	0.04	0.00	0.47	-0.24	0.47	-0.16
38	FT	B	103	0.42	0.17	0.42	0.38	0.04	0.00	0.20	-0.09	0.20	0.03
39	FT	A	103	0.58	0.58	0.14	0.24	0.04	0.00	0.51	0.51	-0.19	-0.24
40	FT	C	103	0.56	0.19	0.20	0.56	0.04	0.00	0.39	-0.23	-0.04	0.39
41	FT	A	103	0.43	0.43	0.23	0.30	0.04	0.00	0.31	0.31	0.03	-0.18
42	FT	C	103	0.55	0.19	0.21	0.55	0.04	0.00	0.51	-0.06	-0.35	0.51
43	FT	C	103	0.55	0.12	0.29	0.55	0.04	0.00	0.29	-0.13	-0.04	0.29
44	FT	B	103	0.53	0.18	0.53	0.25	0.04	0.00	0.40	-0.21	0.40	-0.08

Appendix I:

Overview of Rasch Measurement

Most psychometricians agree that, when possible, the Rasch model is the preferred approach to manage the assessment and reporting processes (Rasch, 1960; Wright & Stone, 1979; Smith & Smith, 2004; Mead, 2008). For non-statisticians, the most compelling reasons may be that the Rasch model:

- is simple to apply, and
- preserves the number-correct ordering.

Simplicity makes the methods (relatively) easy to explain and the results to interpret. The results are straightforward and readily defended in front of administrators, parents, educators, and courts. And nontrivially, the simplicity helps meet the increasingly demanding time lines for reporting.

With number-correct scoring, students with more correct responses are always considered more proficient than students with fewer correct. This is intuitively obvious, based on more than a century of experience using and interpreting such scores.

For statisticians, the attractions of the Rasch model are more esoteric, including:

- an interval scale of measurement,
- meaningful estimates of the standard errors at each raw score, and,
- simple sufficient statistics for person and item parameters.

The interval scale makes it possible to construct a ruler and place the students and the items on the same ruler, along with any performance expectations or normative information. A difference of, say, 10 scale score units will have the same meaning at any point along the scale and will have the same implications when comparing a student to earlier assessments, to an item, to normative information, to expectations, to a growth target, or to another student.

The sufficient statistics are essential to the simplicity. They make it possible to derive estimation equations for person parameters that do not involve the item parameters and for the item parameters that do not involve person parameters. It does not matter which items are used for the assessment or which students are used for the calibration, given the items are appropriate for the students.

Still more compelling, once the sufficient statistics have been extracted, there is nothing remaining in the data that is directly relevant to the measurement. Any residual information can be used to control and monitor the model. The residuals contain diagnostic information about the student's performance on specific items or clusters of items.

The model does, however, place special demands on the item development and test construction processes. In essence, the model requires that all items, while imperfect, be equally valid and reliable instances of the construct. When sufficient care is taken in item and test development, most achievement test data can adequately satisfy the demands of the model and help realize its advantages of valid measurement, quality control, and effective, timely reporting.

THE RASCH PHILOSOPHY OF MEASUREMENT

George Rasch (1960), to derive data that he considered worthy of the name measurement, reasoned that the interaction between the person and the item must be governed by a single person parameter (ability) and a single item parameter (difficulty). If person A has more ability than person B , then A is more likely than B to answer any item correctly. If item i is more difficult than item j , then any person is less likely to answer item i correctly. These two common sense assertions are axiomatic to Rasch Measurement and must hold regardless of any other characteristics of the people or the items.

This reasoning led Rasch to the simple logistic model, which had several very useful and closely related properties touched on above (Rasch, 1960, 1977):

- *Simplicity*, which allows straightforward calculations, ready communication, and interpretation of the measures (Wright & Stone, 1979),
- *Separability* of the model parameters (Rasch, 1960),
- *Sufficiency* that does not involve the parameters (Andersen, 1977),
- *Specific objectivity*, sometimes called *person-free[d]* calibration and *item-free[d]* measurement (Wright, 1968), and

Specific objectivity means that the estimation equations for ability do not involve the difficulty parameters, and the equations for difficulty do not involve the ability parameters. Specific objectivity is possible when *sufficient statistics* for the parameters exist. The sufficient statistics exist because the parameters are *separable* in the model.

In practical terms, the students can be ordered on the measurement continuum by their number correct scores and the items can be ordered on the same continuum by the number of correct responses. No other information is necessary for the measurement and anything remaining in the data can be used to control and monitor fit to the model. Specific objectivity is the cornerstone of the Rasch family of measurement models (Wright & Mok, 1980).

THE MODEL FOR MEASUREMENT

Dichotomous Items

Multiple-choice items (MC) are calibrated using the most familiar form of the model (Rasch, 1960; Wright & Panchapakesan, 1969; Wright & Stone 1979; Andrich, 1988; Fischer & Molenaar, 1995; Smith & Smith, 2004). The Rasch model applicable to dichotomously scored items, given person ability and item difficulty, can be seen in the basic statement of the model.

The probability of success for a person with ability β_v on an item with difficulty δ_i is a function of the difference between the ability of the person and the difficulty of the item; mathematically:

$$1. \quad P(\text{right} \mid \beta_v, \delta_i) = \frac{e^{\beta_v - \delta_i}}{1 + e^{\beta_v - \delta_i}} = \frac{B_v}{B_v + \Delta_i}, \text{ where } B_v = e^{\beta_v} \text{ and } \Delta_i = e^{\delta_i}.$$

This is the probability of scoring one rather than zero on an item for which those are the only possibilities. This expression results in the familiar S-shaped curve relating the ability-difficulty metric to number correct score. Its simplicity makes it especially suited for educational assessment by drawing a clear distinction between the information (captured in the parameter estimates by the sufficient statistics) relevant to estimating the ability property that all examinees share and the information relevant to describing unique characteristics of individuals.

The model returns the identical estimated ability for every student with the same number correct score on a form. In the estimation phase, there is no distinction between the student who passes the easy item and misses the difficult items and the student who misses the easy items and passes the difficult ones. At the control and diagnostic stage, there is a great deal of difference between the two situations. In the first, there is a very clear statement of the person's true location on the construct; in the second, there are two very different statements when the two halves of the test are viewed separately.

This is the stage at which Rasch focuses his concern for the control of the model. The model itself provides a probability statement about any outcome. Typically, one examines the residuals, which can be expressed as the odds against the observed response. When these are collected and dissected, the conclusion for the first student would be nothing surprising occurred; for the second student, most of the responses were surprising. This diagnostic information can be put to good use when reporting and interpreting the test scores.

The strong measurement model is the instrument for understanding the scores, whether it concludes the student was accurately and validly measured or not. It will help lead the teacher and students to the most appropriate next steps.

CALIBRATION: ESTIMATING ITEM DIFFICULTIES

DRC uses the Rasch measurement model to estimate the student proficiencies and to control the assessment process. The model provides straightforward algorithms to compute ability estimates on a unidimensional, equal-interval scale of measurement from the number correct scores.

WINSTEPS (2019) implements the joint maximum likelihood estimation procedure (Linacre, 2019) for estimating item difficulties. This calibration software is commercially available and widely used in the testing industry. In addition to performing item calibration and ability estimation, the capabilities of the WINSTEPS program will be utilized to assess unidimensionality, item interdependence, and other deviations from the model. The program also has several options for exploring the person-item residual matrix (Mead, 1976, 2008; Ludlow 1986; Smith, 2000).

In the simplest formulation, estimating either the item difficulty or the person ability involves solving the fundamental equation that states the observed score must equal the expected score. For example, the ability estimate for a person who scores r on a set of L items is derived from:

$$2. \quad r_v = \sum_{i=1}^L \sum_{k=0}^{m_i} k \hat{P}_{vik}, \text{ where } \hat{P}_{vik} \text{ is defined by (1) with estimates replacing the parameters.}$$

Rasch calibration and scaling have become relatively routine operations. Members of the DRC psychometric staff have been instrumental in the development of the Rasch model and its application over several decades and are intimately familiar with the software for its application,

Appendix J:

ELA Item Bank Difficulties

Grade 3 ELA

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-1.0391	0.1673	0.91	-1.14	0.80	-1.26
2	OP	-0.3594	0.1511	0.90	-1.84	0.81	-1.87
3	OP	1.3807	0.1619	1.24	2.89	1.75	4.79
4	OP	-0.4714	0.1529	0.91	-1.46	0.85	-1.30
5	OP	-1.5314	0.1880	0.85	-1.35	0.63	-1.93
6	OP	-0.7789	0.1595	0.93	-0.95	0.90	-0.71
7	OP	-0.9582	0.1646	0.97	-0.39	0.89	-0.66
8	OP	0.7026	0.1494	1.15	2.43	1.59	5.48
9	OP	1.0387	0.1543	1.09	1.31	1.22	1.96
10	OP	-0.2498	0.1497	0.98	-0.43	0.96	-0.33
11	OP	0.3204	0.1470	0.85	-2.97	0.82	-2.17
12	OP	0.0693	0.1473	1.15	2.86	1.28	2.88
13	OP	-0.7542	0.1589	0.92	-1.19	0.83	-1.28
14	OP	1.4592	0.1641	1.25	2.85	1.36	2.44
15	OP	-1.3008	0.1772	0.96	-0.37	1.05	0.32
16	OP	0.6163	0.1486	1.03	0.47	1.09	0.95
17	OP	0.9467	0.1527	1.09	1.42	1.10	0.99
18	OP	-0.4488	0.1525	0.97	-0.53	0.97	-0.20
19	OP	-0.2066	0.1492	0.82	-3.58	0.73	-2.86
20	OP	0.7681	0.1502	1.07	1.14	1.10	1.03
21	OP	-0.1850	0.1490	1.04	0.77	1.04	0.38
22	OP	0.4253	0.1474	0.99	-0.14	0.96	-0.41
23	OP	0.8343	0.1510	1.19	2.87	1.28	2.68
24	OP	0.4043	0.1473	0.87	-2.44	0.83	-2.08
25	OP	-0.1208	0.1484	0.87	-2.61	0.77	-2.49
26	OP	-0.3816	0.1514	1.06	1.08	1.14	1.25
27	OP	-0.0148	0.1477	0.79	-4.31	0.72	-3.34
28	OP	0.4675	0.1476	1.03	0.61	0.99	-0.14
29	FT	1.1220	0.2236	1.00	0.03	0.97	-0.13
30	FT	-0.2063	0.2078	0.82	-2.85	0.73	-1.99
31	FT	1.2757	0.2294	0.94	-0.48	0.93	-0.41
32	FT	-0.8972	0.2249	1.00	0.03	1.01	0.10
33	FT	1.0724	0.2219	1.10	0.96	1.13	0.89
34	FT	-0.4254	0.2112	0.89	-1.55	0.81	-1.21
35	FT	-0.5611	0.2142	0.93	-0.90	0.83	-0.98
36	FT	0.3051	0.2067	0.99	-0.12	0.93	-0.57
37	FT	1.1152	0.2173	1.27	2.73	1.32	1.83
38	FT	-0.3651	0.2178	0.81	-2.29	0.71	-2.11
39	FT	0.6164	0.2099	0.93	-0.84	0.91	-0.63
40	FT	-0.3651	0.2178	1.01	0.13	1.07	0.48
41	FT	0.3100	0.2091	0.89	-1.46	0.84	-1.29
42	FT	-0.1789	0.2139	1.10	1.23	1.16	1.11
43	FT	0.5286	0.2094	1.07	0.91	1.07	0.55
44	FT	0.2663	0.2092	0.89	-1.48	0.84	-1.31

Grade 4 ELA

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.9443	0.1547	0.93	-0.99	0.86	-1.25
2	OP	-0.7618	0.1499	0.87	-2.16	0.77	-2.32
3	OP	0.0262	0.1394	1.02	0.54	1.22	2.68
4	OP	-0.3838	0.1429	0.95	-0.98	0.89	-1.24
5	OP	-0.9680	0.1554	0.82	-2.62	0.67	-3.09
6	OP	-0.2645	0.1415	1.08	1.56	1.26	2.99
7	OP	-0.2056	0.1409	1.07	1.49	1.06	0.76
8	OP	0.4084	0.1398	0.91	-1.96	0.87	-1.58
9	OP	-0.4854	0.1445	0.82	-3.39	0.75	-3.03
10	OP	0.2743	0.1393	1.07	1.48	1.16	1.93
11	OP	-0.2056	0.1409	0.99	-0.11	0.97	-0.33
12	OP	-1.1403	0.1610	0.92	-0.99	0.78	-1.72
13	OP	-0.8745	0.1528	0.81	-2.84	0.70	-2.97
14	OP	0.5051	0.1404	1.13	2.50	1.12	1.40
15	OP	1.3022	0.1540	1.04	0.54	1.02	0.21
16	OP	-0.6745	0.1480	0.96	-0.64	0.91	-0.84
17	OP	0.7420	0.1428	0.94	-1.17	0.93	-0.72
18	OP	0.1026	0.1392	1.22	4.48	1.27	3.24
19	OP	0.2170	0.1392	0.88	-2.75	0.83	-2.24
20	OP	0.5245	0.1405	1.07	1.45	1.10	1.16
21	OP	0.5831	0.1410	0.96	-0.78	0.92	-0.92
22	OP	0.1026	0.1392	0.86	-3.30	0.86	-1.85
23	OP	0.8642	0.1446	1.04	0.63	1.10	1.01
24	OP	-0.0122	0.1396	1.11	2.32	1.09	1.12
25	OP	0.3125	0.1394	0.93	-1.42	0.88	-1.53
26	OP	0.4857	0.1402	1.14	2.75	1.14	1.58
27	OP	0.9900	0.1468	0.94	-0.90	0.94	-0.54
28	OP	0.7219	0.1426	1.10	1.73	1.10	1.11
29	FT	1.1476	0.2162	1.17	1.74	1.27	1.60
30	FT	0.6270	0.2023	1.04	0.57	1.02	0.20
31	FT	0.4253	0.1997	0.97	-0.44	0.93	-0.62
32	FT	-0.1276	0.1997	1.08	1.18	1.12	1.27
33	FT	1.2915	0.2219	1.07	0.65	1.00	0.04
34	FT	1.3413	0.2241	1.31	2.62	1.47	2.32
35	FT	0.7512	0.2047	1.00	-0.03	0.96	-0.28
36	FT	-0.3293	0.2024	0.99	-0.10	0.93	-0.65
37	FT	0.2818	0.1953	0.92	-1.09	0.86	-1.18
38	FT	1.2964	0.2133	0.90	-0.99	0.87	-0.61
39	FT	-0.3365	0.2000	1.07	0.98	1.06	0.46
40	FT	0.1675	0.1953	1.17	2.41	1.18	1.46
41	FT	1.2964	0.2133	1.00	0.08	0.99	0.02
42	FT	0.3200	0.1955	0.79	-3.17	0.75	-2.25
43	FT	0.3582	0.1956	1.09	1.23	1.09	0.78
44	FT	1.7390	0.2316	1.09	0.76	1.20	0.83

Grade 5 ELA

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-1.4296	0.1690	0.92	-0.85	0.72	-1.88
2	OP	-0.1656	0.1369	0.95	-1.07	1.03	0.40
3	OP	0.2906	0.1353	0.95	-1.00	1.03	0.41
4	OP	-0.6297	0.1436	0.92	-1.39	0.87	-1.32
5	OP	-0.7334	0.1459	1.01	0.20	1.04	0.36
6	OP	-0.9746	0.1523	0.86	-1.93	0.73	-2.37
7	OP	0.3997	0.1356	0.95	-0.99	0.98	-0.24
8	OP	0.2906	0.1353	0.92	-1.73	0.91	-1.15
9	OP	0.1455	0.1353	0.91	-1.94	0.88	-1.60
10	OP	-0.8845	0.1497	0.92	-1.12	0.89	-0.93
11	OP	0.0911	0.1354	0.90	-2.32	0.85	-2.05
12	OP	-0.4503	0.1404	0.98	-0.33	0.95	-0.57
13	OP	0.0547	0.1355	0.96	-0.98	1.05	0.69
14	OP	1.3879	0.1508	1.02	0.29	1.05	0.40
15	OP	0.1637	0.1353	0.89	-2.51	0.87	-1.85
16	OP	-0.1470	0.1367	1.09	1.97	1.15	1.85
17	OP	0.4912	0.1361	1.21	4.20	1.27	3.18
18	OP	0.6768	0.1376	1.00	-0.04	0.99	-0.10
19	OP	-0.3922	0.1395	0.87	-2.61	0.79	-2.61
20	OP	0.1999	0.1352	1.08	1.74	1.06	0.85
21	OP	0.8677	0.1400	0.99	-0.12	1.00	0.01
22	OP	0.0183	0.1357	0.92	-1.79	0.92	-1.01
23	OP	0.6768	0.1376	1.10	1.82	1.08	0.90
24	OP	-0.5291	0.1417	0.97	-0.46	0.94	-0.58
25	OP	0.8097	0.1392	1.12	2.15	1.12	1.33
26	OP	0.8290	0.1394	0.97	-0.60	0.94	-0.62
27	OP	0.0547	0.1355	1.09	1.92	1.07	0.94
28	OP	-0.2215	0.1374	1.00	-0.05	1.01	0.19
29	FT	0.6250	0.1950	0.89	-1.69	0.84	-1.21
30	FT	1.8975	0.2443	1.00	0.04	1.20	0.75
31	FT	1.6193	0.2281	0.90	-0.78	0.95	-0.14
32	FT	0.6631	0.1956	1.17	2.34	1.20	1.43
33	FT	0.5871	0.1944	1.05	0.73	1.05	0.40
34	FT	-0.0767	0.1922	0.90	-1.72	0.83	-1.57
35	FT	1.2805	0.2128	0.93	-0.63	0.91	-0.38
36	FT	0.1070	0.1913	1.05	0.85	1.02	0.21
37	FT	1.5136	0.2140	1.12	1.11	1.20	1.20
38	FT	0.8513	0.1959	1.27	3.26	1.38	3.11
39	FT	0.4777	0.1917	1.12	1.73	1.13	1.34
40	FT	0.0021	0.1923	1.03	0.39	1.01	0.10
41	FT	0.1124	0.1915	1.11	1.59	1.11	1.14
42	FT	0.9675	0.1981	1.24	2.80	1.27	2.11
43	FT	1.4682	0.2123	1.01	0.11	1.07	0.46
44	FT	-0.1844	0.1944	1.03	0.42	0.97	-0.23

Grade 6 ELA

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.7165	0.1445	0.88	-2.08	0.85	-1.52
2	OP	-0.3065	0.1380	0.99	-0.22	0.99	-0.12
3	OP	-0.7578	0.1454	0.98	-0.37	0.96	-0.40
4	OP	-1.1588	0.1567	0.89	-1.41	0.78	-1.73
5	OP	-0.5756	0.1418	0.96	-0.68	1.03	0.32
6	OP	-0.1208	0.1365	1.05	1.09	1.05	0.77
7	OP	-0.7165	0.1445	0.95	-0.79	0.88	-1.22
8	OP	-0.3065	0.1380	0.92	-1.83	0.89	-1.40
9	OP	-0.6961	0.1441	0.98	-0.25	0.92	-0.81
10	OP	1.4550	0.1572	1.08	0.94	1.27	2.00
11	OP	0.5430	0.1378	1.15	2.97	1.14	1.87
12	OP	0.6385	0.1389	0.98	-0.46	0.98	-0.24
13	OP	0.6966	0.1396	0.92	-1.51	0.90	-1.22
14	OP	0.2637	0.1360	0.99	-0.32	0.98	-0.33
15	OP	-0.3820	0.1389	1.03	0.57	0.99	-0.06
16	OP	-0.9731	0.1509	0.87	-1.93	0.77	-2.09
17	OP	-0.2504	0.1375	0.95	-1.02	0.90	-1.29
18	OP	0.0807	0.1358	1.00	0.09	0.98	-0.30
19	OP	0.1355	0.1358	0.94	-1.33	0.92	-1.15
20	OP	0.5430	0.1378	1.19	3.70	1.33	4.10
21	OP	0.5240	0.1376	1.12	2.43	1.12	1.62
22	OP	0.2821	0.1361	1.04	0.82	1.02	0.26
23	OP	0.0990	0.1358	0.93	-1.76	0.89	-1.68
24	OP	-0.0107	0.1360	0.90	-2.38	0.86	-2.12
25	OP	-0.0840	0.1363	0.95	-1.19	0.94	-0.89
26	OP	0.2821	0.1361	0.94	-1.32	0.92	-1.21
27	OP	0.3930	0.1366	1.06	1.39	1.08	1.20
28	OP	1.4550	0.1572	0.88	-1.45	0.85	-1.20
29	FT	0.4954	0.1994	0.85	-2.15	0.79	-1.75
30	FT	0.2602	0.1969	0.95	-0.69	0.90	-0.86
31	FT	0.5754	0.2007	1.18	2.26	1.19	1.42
32	FT	0.9966	0.2110	0.97	-0.27	0.91	-0.55
33	FT	0.7807	0.2049	1.05	0.60	1.00	0.01
34	FT	0.7807	0.2049	1.26	2.87	1.27	1.80
35	FT	0.5352	0.2000	1.03	0.44	0.98	-0.12
36	FT	-0.0484	0.1965	0.97	-0.43	0.95	-0.42
37	FT	0.5242	0.1899	1.04	0.60	1.03	0.44
38	FT	0.0983	0.1880	1.19	3.00	1.20	2.69
39	FT	1.0130	0.1995	1.04	0.46	1.06	0.54
40	FT	-0.4833	0.1954	0.99	-0.13	1.00	0.08
41	FT	-0.0435	0.1887	1.02	0.36	1.00	0.00
42	FT	1.0530	0.2007	1.22	2.45	1.24	2.05
43	FT	0.8955	0.1964	1.16	1.97	1.18	1.71
44	FT	1.0130	0.1995	1.03	0.38	1.01	0.12

Grade 7 ELA

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.7875	0.1567	1.05	0.73	1.19	1.50
2	OP	-0.5085	0.1509	0.96	-0.72	0.97	-0.27
3	OP	-1.8939	0.2013	1.10	0.75	1.31	1.34
4	OP	0.1968	0.1447	1.12	2.37	1.18	1.63
5	OP	-0.1600	0.1464	0.86	-2.74	0.82	-1.83
6	OP	-0.4194	0.1495	0.95	-0.89	0.88	-1.08
7	OP	0.7056	0.1474	1.15	2.63	1.33	2.31
8	OP	-0.5537	0.1517	1.03	0.53	1.00	0.04
9	OP	-1.0656	0.1646	0.84	-1.93	0.70	-2.29
10	OP	0.6405	0.1467	1.13	2.23	1.11	0.87
11	OP	-0.3754	0.1488	0.89	-1.97	0.91	-0.86
12	OP	-1.0130	0.1630	0.93	-0.85	0.79	-1.56
13	OP	0.1133	0.1448	0.94	-1.17	0.89	-1.05
14	OP	1.0438	0.1525	1.09	1.36	1.08	0.52
15	OP	0.8381	0.1491	1.01	0.14	0.94	-0.39
16	OP	-0.0754	0.1457	1.04	0.83	0.99	-0.04
17	OP	0.4273	0.1452	0.94	-1.19	0.89	-0.91
18	OP	0.6189	0.1465	0.91	-1.63	0.89	-0.88
19	OP	0.6405	0.1467	0.92	-1.56	0.86	-1.14
20	OP	-0.8608	0.1586	0.96	-0.53	0.89	-0.82
21	OP	0.5546	0.1460	0.94	-1.08	0.92	-0.66
22	OP	-0.2240	0.1470	0.91	-1.64	0.84	-1.57
23	OP	0.0924	0.1449	1.19	3.58	1.28	2.48
24	OP	0.2595	0.1447	0.77	-4.83	0.69	-3.13
25	OP	-0.0543	0.1456	1.08	1.49	1.07	0.68
26	OP	1.0673	0.1530	0.92	-1.29	0.86	-0.86
27	OP	0.4063	0.1451	0.86	-2.80	0.80	-1.82
28	OP	-0.0754	0.1457	0.94	-1.16	0.88	-1.19
29	FT	-0.8529	0.2276	0.89	-1.00	0.79	-1.23
30	FT	-0.1403	0.2116	0.86	-1.89	0.79	-1.44
31	FT	1.1861	0.2262	1.12	1.17	1.10	0.44
32	FT	0.7972	0.2158	0.91	-1.04	0.81	-0.86
33	FT	0.2137	0.2098	0.97	-0.31	0.97	-0.13
34	FT	0.2137	0.2098	0.89	-1.54	0.80	-1.26
35	FT	0.7972	0.2158	1.39	4.05	1.38	1.67
36	FT	0.9389	0.2190	1.17	1.80	1.11	0.55
37	FT	1.4755	0.2246	1.19	1.65	1.27	1.06
38	FT	1.2335	0.2157	1.22	2.08	1.23	1.03
39	FT	0.7522	0.2040	0.93	-0.94	0.85	-0.87
40	FT	0.9644	0.2082	0.98	-0.24	0.96	-0.15
41	FT	-0.3434	0.2056	1.14	1.84	1.06	0.43
42	FT	1.6314	0.2314	1.36	2.69	1.40	1.37
43	FT	0.4262	0.2003	1.08	1.14	1.05	0.37
44	FT	0.7940	0.2047	1.18	2.15	1.14	0.84

Grade 8 ELA

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.5199	0.1453	0.98	-0.29	0.98	-0.18
2	OP	-0.0195	0.1402	0.99	-0.23	0.95	-0.50
3	OP	-0.8681	0.1527	0.96	-0.52	0.92	-0.55
4	OP	-1.2369	0.1645	0.89	-1.33	0.71	-1.87
5	OP	0.0391	0.1400	0.88	-2.70	0.83	-2.01
6	OP	-0.2957	0.1422	0.94	-1.29	0.85	-1.56
7	OP	0.6321	0.1424	1.17	2.86	1.22	2.38
8	OP	-0.0782	0.1405	0.89	-2.39	0.82	-2.17
9	OP	-0.1765	0.1411	1.04	0.94	1.03	0.32
10	OP	0.3126	0.1402	0.93	-1.37	0.91	-1.10
11	OP	-0.1371	0.1408	0.84	-3.47	0.77	-2.74
12	OP	-0.3359	0.1427	1.03	0.58	1.01	0.13
13	OP	-0.7778	0.1504	0.82	-3.00	0.68	-2.74
14	OP	0.2146	0.1399	0.92	-1.75	0.89	-1.38
15	OP	0.7351	0.1436	1.02	0.37	1.00	0.00
16	OP	-0.6040	0.1467	0.93	-1.31	0.87	-1.09
17	OP	0.8403	0.1451	1.02	0.40	1.00	0.00
18	OP	0.3322	0.1402	1.02	0.39	1.01	0.17
19	OP	-0.1963	0.1413	0.86	-3.13	0.77	-2.60
20	OP	0.1171	0.1399	1.14	2.84	1.25	2.79
21	OP	-0.5199	0.1453	1.01	0.20	1.08	0.73
22	OP	0.3519	0.1403	0.97	-0.54	0.94	-0.71
23	OP	0.2146	0.1399	0.90	-2.05	0.85	-1.91
24	OP	-0.0782	0.1405	1.05	1.08	1.06	0.68
25	OP	1.1729	0.1514	1.10	1.35	1.23	1.93
26	OP	-0.1765	0.1411	0.91	-2.00	0.83	-1.96
27	OP	0.9262	0.1465	1.06	0.91	1.08	0.82
28	OP	-0.0195	0.1402	1.16	3.18	1.23	2.44
29	FT	0.4213	0.1977	0.93	-1.01	0.94	-0.42
30	FT	0.9071	0.2061	1.12	1.34	1.16	1.00
31	FT	0.3046	0.1967	0.95	-0.67	0.91	-0.68
32	FT	-0.4360	0.2013	0.93	-0.92	0.93	-0.43
33	FT	-0.0809	0.1968	1.12	1.77	1.12	0.94
34	FT	0.9930	0.2084	1.11	1.15	1.14	0.84
35	FT	-0.3556	0.1999	1.05	0.72	1.03	0.25
36	FT	0.5392	0.1991	0.98	-0.19	0.95	-0.33
37	FT	1.4030	0.2220	1.40	3.19	1.58	3.14
38	FT	0.9869	0.2092	1.11	1.21	1.10	0.84
39	FT	0.2067	0.1994	1.27	3.60	1.28	2.35
40	FT	0.3659	0.1999	1.18	2.43	1.23	2.03
41	FT	1.6073	0.2303	1.06	0.56	1.08	0.51
42	FT	0.3261	0.1997	1.06	0.90	1.02	0.20
43	FT	2.0741	0.2547	1.01	0.10	0.99	0.03
44	FT	-0.0725	0.2006	0.97	-0.39	0.90	-0.76

High School ELA

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-1.3456	0.1852	1.01	0.11	0.81	-0.79
2	OP	-0.8322	0.1664	0.91	-1.21	0.78	-1.27
3	OP	-0.1533	0.1538	0.92	-1.55	0.83	-1.38
4	OP	-0.4184	0.1572	0.89	-1.90	0.79	-1.56
5	OP	0.5484	0.1529	0.92	-1.32	0.85	-1.28
6	OP	-0.8598	0.1672	0.94	-0.73	1.15	0.87
7	OP	0.5248	0.1528	0.99	-0.09	0.94	-0.51
8	OP	-0.1297	0.1536	1.02	0.45	1.08	0.66
9	OP	0.3839	0.1521	0.98	-0.30	0.93	-0.59
10	OP	0.6675	0.1538	0.89	-1.82	1.14	1.09
11	OP	-0.7243	0.1636	0.94	-0.90	0.91	-0.51
12	OP	-0.0590	0.1530	0.98	-0.27	0.89	-0.88
13	OP	-0.0356	0.1528	0.92	-1.44	1.20	1.52
14	OP	-0.8049	0.1657	0.91	-1.20	0.78	-1.32
15	OP	0.3605	0.1521	0.83	-3.15	0.76	-2.18
16	OP	1.0893	0.1593	1.01	0.11	0.98	-0.09
17	OP	0.4073	0.1522	0.95	-0.87	1.00	0.02
18	OP	0.6436	0.1536	1.30	4.39	1.28	2.14
19	OP	0.0812	0.1522	1.07	1.28	1.29	2.26
20	OP	0.2440	0.1519	1.01	0.25	0.99	-0.02
21	OP	-0.1061	0.1534	1.03	0.48	1.00	0.05
22	OP	0.1975	0.1520	0.92	-1.39	0.86	-1.21
23	OP	-0.3450	0.1561	0.90	-1.71	0.75	-1.90
24	OP	-0.8322	0.1664	1.00	0.04	0.97	-0.11
25	OP	-0.3694	0.1564	1.00	0.01	1.04	0.36
26	OP	-0.0122	0.1527	1.03	0.53	1.03	0.25
27	OP	0.5248	0.1528	0.93	-1.13	0.90	-0.86
28	OP	0.5484	0.1529	0.99	-0.18	0.98	-0.14
29	FT	0.1587	0.2081	1.37	4.32	1.72	3.83
30	FT	0.9420	0.2121	1.06	0.64	1.05	0.36
31	FT	1.0785	0.2145	0.97	-0.26	0.94	-0.25
32	FT	-0.4236	0.2174	0.99	-0.07	0.92	-0.36
33	FT	-0.0156	0.2097	1.02	0.25	0.91	-0.54
34	FT	0.9420	0.2121	1.03	0.34	0.96	-0.16
35	FT	0.3312	0.2075	0.90	-1.26	0.81	-1.25
36	FT	1.1247	0.2155	0.93	-0.66	0.89	-0.56
37	FT	0.5826	0.2261	1.05	0.59	1.17	0.95
38	FT	0.3805	0.2237	1.13	1.43	1.14	0.79
39	FT	0.8971	0.2323	1.27	2.32	1.23	1.14
40	FT	0.1320	0.2226	1.05	0.65	1.09	0.52
41	FT	0.7377	0.2288	1.06	0.59	1.01	0.12
42	FT	0.7377	0.2288	1.01	0.10	0.92	-0.35
43	FT	1.4765	0.2510	1.57	3.61	1.68	2.22
44	FT	1.5402	0.2536	1.42	2.69	1.63	2.02

Appendix K:

Mathematics Item Bank Difficulties

Grade 3 Mathematics

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-1.4844	0.1745	0.92	-0.76	0.75	-1.64
2	OP	0.2771	0.1447	1.01	0.21	1.02	0.23
3	OP	-0.6286	0.1495	1.10	1.78	1.16	1.71
4	OP	-0.5190	0.1478	0.88	-2.33	0.84	-1.90
5	OP	-0.4974	0.1475	1.02	0.46	1.04	0.53
6	OP	-0.2427	0.1449	0.81	-4.13	0.76	-3.38
7	OP	0.2981	0.1448	0.93	-1.41	0.89	-1.54
8	OP	-0.1177	0.1443	1.08	1.69	1.09	1.26
9	OP	-1.0746	0.1598	0.83	-2.40	0.70	-2.69
10	OP	0.1103	0.1440	0.97	-0.73	0.95	-0.66
11	OP	1.1136	0.1583	0.99	-0.11	1.02	0.21
12	OP	0.0274	0.1440	1.16	3.27	1.19	2.55
13	OP	0.4252	0.1458	0.95	-0.95	0.94	-0.71
14	OP	-0.3267	0.1456	0.84	-3.47	0.77	-3.15
15	OP	-0.8797	0.1546	0.90	-1.55	0.82	-1.69
16	OP	0.4252	0.1458	0.93	-1.47	0.90	-1.29
17	OP	0.2562	0.1446	0.99	-0.18	0.96	-0.47
18	OP	0.0896	0.1440	1.01	0.21	0.98	-0.25
19	OP	-0.4116	0.1465	1.01	0.27	1.00	0.07
20	OP	0.5328	0.1470	1.07	1.27	1.13	1.53
21	OP	-0.0348	0.1440	1.06	1.25	1.03	0.43
22	OP	-0.8328	0.1535	0.88	-1.96	0.77	-2.34
23	OP	0.8703	0.1525	1.01	0.19	1.00	0.07
24	OP	1.0386	0.1563	0.95	-0.72	0.98	-0.16
25	OP	1.1391	0.1590	1.13	1.75	1.22	1.84
26	OP	0.4466	0.1460	0.95	-0.97	0.92	-1.04
27	OP Form A	-0.6315	0.2070	0.88	-1.66	0.78	-1.49
28	OP Form A	1.1252	0.2250	1.18	1.60	1.29	1.70
29	OP Form B	-0.7738	0.2258	0.91	-0.88	1.14	0.77
30	OP Form B	0.4390	0.2149	1.00	0.07	0.97	-0.21
31	FT	0.8625	0.2146	1.01	0.17	1.08	0.68
32	FT	-0.0614	0.2007	1.00	0.10	0.96	-0.45
33	FT	1.2558	0.2301	1.08	0.73	1.14	0.85
34	FT	-0.0614	0.2007	1.20	3.03	1.31	3.06
35	FT	0.3440	0.2030	0.83	-2.62	0.78	-2.42
36	FT	0.6829	0.2095	1.16	1.90	1.17	1.43
37	FT	-0.2179	0.2083	1.02	0.25	1.05	0.49
38	FT	0.0824	0.2066	0.85	-2.13	0.80	-1.96
39	FT	0.5123	0.2093	1.09	1.20	1.08	0.68
40	FT	-0.1315	0.2075	0.96	-0.55	0.90	-0.94
41	FT	-0.8593	0.2226	0.90	-1.03	0.89	-0.69
42	FT	1.2173	0.2277	1.27	2.34	1.47	2.30
43	FT	1.5429	0.1726	1.24	2.38	1.40	2.42
44	FT	1.1336	0.1588	1.27	3.32	1.41	3.21

Grade 4 Mathematics

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.4404	0.1394	0.97	-0.61	0.96	-0.54
2	OP	-0.6916	0.1420	0.94	-1.22	0.92	-0.96
3	OP	0.0871	0.1392	0.97	-0.54	0.99	-0.06
4	OP	-0.2517	0.1386	0.96	-0.80	0.92	-1.23
5	OP	-0.2329	0.1385	1.10	2.24	1.11	1.65
6	OP	-0.3458	0.1389	0.91	-2.15	0.96	-0.60
7	OP	0.4369	0.1426	1.04	0.75	1.16	1.99
8	OP	-0.3647	0.1390	0.99	-0.31	0.95	-0.68
9	OP	0.7925	0.1490	1.12	1.76	1.22	2.18
10	OP	-0.2893	0.1387	0.99	-0.24	1.00	-0.05
11	OP	0.5587	0.1444	0.97	-0.47	0.97	-0.35
12	OP	0.4170	0.1423	0.99	-0.17	0.99	-0.12
13	OP	0.2404	0.1403	0.99	-0.15	1.00	-0.01
14	OP	0.0114	0.1388	1.01	0.27	1.01	0.16
15	OP	-0.3836	0.1391	0.93	-1.55	0.91	-1.33
16	OP	-0.6328	0.1412	1.04	0.87	1.12	1.54
17	OP	0.2210	0.1401	0.94	-1.21	0.91	-1.28
18	OP	0.0871	0.1392	0.93	-1.41	0.94	-0.97
19	OP	0.2210	0.1401	0.93	-1.39	0.94	-0.81
20	OP	-0.2893	0.1387	0.93	-1.71	0.90	-1.58
21	OP	0.1443	0.1395	0.97	-0.54	0.96	-0.62
22	OP	0.3575	0.1415	1.16	2.87	1.14	1.79
23	OP	0.1252	0.1394	1.02	0.48	1.04	0.63
24	OP	-0.9556	0.1464	0.86	-2.49	0.82	-1.95
25	OP	0.6210	0.1455	0.94	-0.91	0.93	-0.77
26	OP	0.3182	0.1411	1.03	0.60	1.02	0.31
27	OP	-0.2893	0.1387	0.95	-1.14	0.94	-0.96
28	OP	0.5382	0.1441	0.98	-0.30	1.01	0.16
29	OP	0.2597	0.1405	0.92	-1.51	0.95	-0.66
30	OP	-0.2705	0.1386	1.12	2.67	1.14	2.07
31	FT	-0.5852	0.1996	0.92	-1.32	0.87	-1.38
32	FT	1.0560	0.2285	1.14	1.13	1.19	1.14
33	FT	0.0029	0.1986	1.23	3.48	1.26	2.89
34	FT	0.2428	0.2018	1.09	1.22	1.10	1.08
35	FT	-0.7058	0.2014	0.97	-0.46	0.95	-0.49
36	FT	-0.3099	0.1975	1.04	0.71	1.15	1.68
37	FT	0.4933	0.2074	0.98	-0.20	0.95	-0.44
38	FT	-0.3880	0.1978	0.84	-2.83	0.79	-2.50
39	FT	0.0595	0.1941	1.05	0.80	1.07	0.75
40	FT	0.7631	0.2040	1.19	2.08	1.21	1.50
41	FT	1.0667	0.2131	1.21	1.99	1.28	1.61
42	FT	-0.6270	0.1992	0.94	-0.79	0.90	-0.89
43	FT	0.3253	0.1961	1.05	0.68	1.03	0.34
44	FT	-0.4320	0.1962	0.89	-1.56	0.86	-1.33
45	FT	-0.7069	0.2007	0.93	-0.96	0.87	-1.09
46	FT	0.7631	0.2040	1.09	1.05	1.12	0.87

Grade 5 Mathematics

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.2192	0.1343	1.03	0.81	1.02	0.27
2	OP	0.1360	0.1353	1.04	0.91	1.19	2.42
3	OP	-0.6320	0.1370	0.94	-1.38	0.99	-0.13
4	OP	0.6028	0.1411	0.95	-0.86	0.99	-0.10
5	OP	-0.4864	0.1355	1.12	2.79	1.22	2.61
6	OP	0.5637	0.1404	0.97	-0.51	0.98	-0.17
7	OP	-0.0246	0.1344	0.88	-3.00	0.83	-2.51
8	OP	0.4297	0.1383	1.06	1.19	1.07	0.87
9	OP	-0.3611	0.1347	0.88	-2.91	0.84	-2.22
10	OP	-0.7436	0.1385	0.92	-1.78	0.93	-0.72
11	OP	-0.4684	0.1354	0.91	-2.22	0.86	-1.90
12	OP	0.3735	0.1376	1.06	1.18	1.10	1.18
13	OP	-0.5953	0.1366	0.97	-0.77	0.96	-0.50
14	OP	-0.1662	0.1342	0.85	-3.90	0.79	-3.02
15	OP	-0.0068	0.1345	0.85	-3.66	0.81	-2.75
16	OP	0.0465	0.1347	1.11	2.53	1.10	1.34
17	OP	0.2995	0.1367	0.99	-0.13	0.99	-0.05
18	OP	0.4866	0.1392	0.96	-0.75	0.94	-0.65
19	OP	0.2445	0.1362	1.07	1.43	1.05	0.70
20	OP	-0.2546	0.1343	0.97	-0.80	1.13	1.74
21	OP	-0.1662	0.1342	0.85	-3.90	0.83	-2.49
22	OP	0.2628	0.1363	1.21	4.15	1.22	2.65
23	OP	0.3363	0.1371	0.98	-0.41	0.93	-0.81
24	OP	0.1180	0.1351	0.89	-2.63	0.85	-2.15
25	OP	0.3179	0.1369	1.02	0.42	1.03	0.40
26	OP	-0.3611	0.1347	1.08	1.98	1.12	1.59
27	OP	-0.0777	0.1343	1.03	0.73	1.03	0.40
28	OP	0.8898	0.1473	1.01	0.19	1.00	0.00
29	OP	-0.3077	0.1345	1.11	2.69	1.10	1.30
30	OP	-0.2369	0.1343	0.94	-1.40	0.90	-1.32
31	FT	0.1416	0.1939	1.04	0.63	1.04	0.39
32	FT	0.0668	0.1932	0.94	-0.89	0.92	-0.75
33	FT	-0.3035	0.1925	0.95	-0.92	0.92	-0.81
34	FT	-0.3035	0.1925	1.02	0.34	1.01	0.12
35	FT	0.5689	0.2015	1.00	0.03	0.99	0.01
36	FT	0.7348	0.2061	1.27	2.72	1.33	2.03
37	FT	-0.6807	0.1968	0.93	-1.10	0.91	-0.74
38	FT	0.6097	0.2025	0.97	-0.36	0.95	-0.31
39	FT	-0.8700	0.1966	0.97	-0.39	1.06	0.47
40	FT	0.1382	0.1889	0.95	-0.72	0.91	-0.86
41	FT	0.3184	0.1911	1.03	0.49	1.02	0.20
42	FT	0.9448	0.2074	1.11	1.15	1.10	0.72
43	FT	-0.2852	0.1879	1.35	5.42	1.45	3.76
44	FT	-0.0740	0.1876	0.87	-2.23	0.84	-1.67
45	FT	0.1739	0.1892	1.20	2.94	1.28	2.47
46	FT	0.4663	0.1937	0.91	-1.16	0.92	-0.65

Grade 6 Mathematics

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-1.2956	0.1594	0.91	-1.08	0.82	-1.22
2	OP	0.2029	0.1384	0.90	-2.27	0.87	-1.73
3	OP	0.3740	0.1396	0.95	-0.92	0.99	-0.11
4	OP	-0.6736	0.1433	0.93	-1.39	0.84	-1.58
5	OP	-1.0572	0.1519	0.93	-1.09	0.88	-0.93
6	OP	0.2029	0.1384	1.09	1.83	1.08	1.07
7	OP	-0.0592	0.1379	0.96	-0.98	0.94	-0.83
8	OP	0.0155	0.1378	1.10	2.15	1.08	1.03
9	OP	-0.4180	0.1399	0.96	-0.91	0.90	-1.11
10	OP	0.4318	0.1401	0.99	-0.19	1.00	-0.03
11	OP	-0.3988	0.1397	0.94	-1.27	0.91	-1.01
12	OP	0.5097	0.1410	0.98	-0.28	1.08	1.04
13	OP	-0.2468	0.1385	0.95	-1.23	0.90	-1.25
14	OP	0.0155	0.1378	0.92	-1.89	0.90	-1.39
15	OP	0.5293	0.1413	0.96	-0.75	0.94	-0.69
16	OP	-0.5148	0.1410	1.05	1.08	1.12	1.25
17	OP	0.7716	0.1451	1.11	1.82	1.13	1.43
18	OP	-0.2091	0.1383	0.92	-1.90	0.86	-1.76
19	OP	-0.3605	0.1393	0.94	-1.39	0.93	-0.83
20	OP	0.1653	0.1382	1.17	3.60	1.29	3.54
21	OP	-0.2845	0.1387	0.86	-3.18	0.81	-2.42
22	OP	0.0342	0.1378	1.00	-0.01	0.96	-0.48
23	OP	0.0529	0.1379	1.09	2.01	1.08	1.01
24	OP	-0.3988	0.1397	0.92	-1.76	0.90	-1.12
25	OP	-0.0406	0.1378	1.05	1.06	1.19	2.36
26	OP	0.9201	0.1481	0.92	-1.28	0.86	-1.48
27	OP	0.6488	0.1430	1.18	2.97	1.19	2.17
28	OP	0.2029	0.1384	0.96	-0.84	0.95	-0.71
29	OP	-0.3605	0.1393	1.02	0.49	1.06	0.75
30	OP	1.2405	0.1566	1.07	0.93	1.05	0.45
31	FT	0.8934	0.2092	1.07	0.76	1.06	0.47
32	FT	0.4771	0.1999	0.96	-0.56	0.94	-0.49
33	FT	0.7643	0.2057	1.32	3.68	1.39	2.65
34	FT	0.2407	0.1974	0.92	-1.36	0.89	-1.10
35	FT	1.1203	0.2171	1.09	0.86	1.07	0.44
36	FT	-0.2255	0.1981	0.98	-0.37	0.92	-0.82
37	FT	0.9375	0.2106	1.10	1.14	1.08	0.54
38	FT	0.1242	0.1969	0.99	-0.11	0.95	-0.45
39	FT	0.5981	0.2003	1.03	0.40	1.00	0.08
40	FT	-0.3504	0.1943	0.85	-2.47	0.78	-1.64
41	FT	0.2485	0.1947	1.22	3.03	1.23	1.98
42	FT	0.5582	0.1994	1.13	1.60	1.14	1.23
43	FT	-0.4262	0.1951	0.92	-1.27	0.85	-0.99
44	FT	-0.0140	0.1930	1.02	0.37	0.96	-0.32
45	FT	-0.2377	0.1934	0.90	-1.70	0.84	-1.20
46	FT	0.6790	0.2021	1.07	0.86	1.15	1.22

Grade 7 Mathematics

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	0.4343	0.1467	1.06	1.06	1.32	2.90
2	OP	0.1094	0.1447	1.17	3.46	1.68	6.42
3	OP	-0.3959	0.1468	0.90	-2.06	0.89	-1.28
4	OP	-0.2525	0.1456	1.02	0.48	1.04	0.54
5	OP	0.3112	0.1456	1.04	0.87	1.04	0.49
6	OP	0.0893	0.1447	1.01	0.12	1.20	2.14
7	OP	-1.0172	0.1585	0.93	-1.03	0.83	-1.58
8	OP	-0.8056	0.1533	1.06	0.95	1.07	0.69
9	OP	-0.0109	0.1446	0.97	-0.71	0.94	-0.72
10	OP	-0.7605	0.1524	0.80	-3.46	0.70	-3.43
11	OP	-0.1514	0.1450	0.87	-2.96	0.81	-2.43
12	OP	0.0492	0.1446	1.16	3.22	1.14	1.53
13	OP	-0.0710	0.1447	0.99	-0.13	0.96	-0.46
14	OP	-0.1716	0.1451	1.13	2.71	1.13	1.53
15	OP	0.4758	0.1471	1.11	1.99	1.11	1.04
16	OP	-0.2525	0.1456	1.09	1.74	1.11	1.31
17	OP	-0.4793	0.1478	0.81	-3.76	0.77	-2.76
18	OP	0.0693	0.1446	1.14	2.92	1.11	1.22
19	OP	-0.1514	0.1450	0.88	-2.69	0.84	-1.98
20	OP	0.4343	0.1467	1.25	4.41	1.24	2.27
21	OP	0.5386	0.1479	1.04	0.77	1.02	0.21
22	OP	-0.1514	0.1450	1.04	0.85	0.99	-0.03
23	OP	0.1898	0.1449	0.87	-2.86	0.82	-2.08
24	OP	-0.0710	0.1447	0.87	-2.81	0.82	-2.24
25	OP	1.1790	0.1614	1.12	1.57	1.11	0.73
26	OP	0.7762	0.1516	1.07	1.08	1.04	0.38
27	OP	0.1094	0.1447	0.85	-3.26	0.82	-2.21
28	OP	0.3725	0.1461	1.00	0.06	0.98	-0.19
29	OP	0.1898	0.1449	1.17	3.34	1.15	1.65
30	OP	-0.5853	0.1493	0.99	-0.22	0.96	-0.40
31	FT	-0.9731	0.2316	0.78	-2.13	0.68	-2.24
32	FT	1.0188	0.2243	1.06	0.66	1.02	0.18
33	FT	1.5758	0.2508	1.08	0.63	1.08	0.36
34	FT	-1.1391	0.2391	0.78	-1.93	0.67	-2.14
35	FT	0.5004	0.2118	1.16	2.15	1.12	0.80
36	FT	1.5758	0.2508	0.98	-0.07	0.99	0.08
37	FT	1.1737	0.2302	0.96	-0.39	0.90	-0.35
38	FT	-0.1600	0.2106	0.82	-2.77	0.76	-2.09
39	FT	1.0812	0.2221	0.99	-0.09	0.89	-0.51
40	FT	0.4527	0.2044	0.91	-1.17	0.85	-1.10
41	FT	0.2470	0.2015	0.93	-0.95	0.92	-0.65
42	FT	-0.1942	0.2001	0.89	-1.77	0.83	-1.57
43	FT	0.7989	0.2125	0.93	-0.76	0.93	-0.37
44	FT	-0.7295	0.2075	0.77	-3.22	0.69	-2.56
45	FT	-0.2745	0.2006	1.06	0.92	1.11	0.97
46	FT	-0.0743	0.1999	0.90	-1.58	0.86	-1.30

Grade 8 Mathematics

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.3025	0.1394	1.17	3.61	1.52	5.20
2	OP	0.4159	0.1414	1.09	1.62	1.30	2.99
3	OP	0.5343	0.1430	0.92	-1.45	0.99	-0.08
4	OP	0.3770	0.1410	1.16	2.93	1.53	5.01
5	OP	0.3383	0.1406	1.02	0.45	0.99	-0.11
6	OP	-0.1709	0.1388	1.04	0.89	1.05	0.60
7	OP	0.6559	0.1449	1.02	0.34	1.04	0.37
8	OP	-0.2272	0.1390	1.08	1.87	1.07	0.81
9	OP	-0.0400	0.1387	1.05	1.16	1.09	1.05
10	OP	0.8026	0.1477	1.12	1.82	1.17	1.45
11	OP	-0.8121	0.1457	0.90	-1.75	0.81	-1.85
12	OP	-0.4933	0.1409	0.84	-3.59	0.77	-2.61
13	OP	0.1855	0.1394	0.95	-1.14	0.92	-0.97
14	OP	-0.1522	0.1388	0.83	-4.18	0.76	-2.99
15	OP	-0.0400	0.1387	0.96	-0.91	0.91	-1.08
16	OP	0.4551	0.1419	0.96	-0.75	0.91	-1.00
17	OP	-0.8747	0.1469	0.89	-1.93	0.82	-1.65
18	OP	-0.6301	0.1426	0.91	-1.92	0.84	-1.63
19	OP	0.2425	0.1398	1.01	0.22	1.00	0.05
20	OP	0.2615	0.1399	0.97	-0.59	0.93	-0.80
21	OP	0.1855	0.1394	1.06	1.18	1.02	0.21
22	OP	-0.2648	0.1392	1.13	2.78	1.22	2.37
23	OP	0.1855	0.1394	0.91	-1.96	0.86	-1.65
24	OP	-0.5321	0.1414	0.91	-1.97	0.85	-1.60
25	OP	-0.4548	0.1405	0.98	-0.49	0.97	-0.34
26	OP	1.0244	0.1529	1.12	1.62	1.16	1.20
27	OP	-0.1335	0.1387	0.99	-0.20	0.93	-0.86
28	OP	-1.3297	0.1594	0.84	-2.03	0.71	-2.13
29	OP	0.3190	0.1404	0.96	-0.84	0.92	-0.91
30	OP	0.4748	0.1421	1.10	1.84	1.13	1.29
31	FT	0.4770	0.1993	0.91	-1.14	0.85	-1.11
32	FT	1.0299	0.2153	1.02	0.24	0.98	-0.06
33	FT	0.5168	0.2001	1.21	2.54	1.25	1.73
34	FT	0.0915	0.1944	0.90	-1.59	0.84	-1.46
35	FT	0.5168	0.2001	1.07	0.96	1.10	0.74
36	FT	0.2434	0.1957	0.94	-0.96	0.89	-0.92
37	FT	-0.5520	0.1973	0.83	-2.62	0.74	-2.27
38	FT	-0.1715	0.1938	0.94	-0.91	0.87	-1.22
39	FT	1.1678	0.2230	1.09	0.81	1.12	0.63
40	FT	-0.1024	0.1986	1.01	0.23	1.05	0.42
41	FT	0.4555	0.2025	0.93	-0.94	0.86	-1.05
42	FT	-0.0235	0.1985	1.01	0.21	0.98	-0.14
43	FT	-0.3406	0.2002	0.94	-0.88	1.40	2.66
44	FT	-0.4619	0.2018	0.94	-0.94	0.85	-1.04
45	FT	0.5381	0.2039	1.09	1.14	1.09	0.65
46	FT	0.6644	0.2067	1.13	1.47	1.12	0.78

High School Mathematics

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.4199	0.1514	0.91	-1.60	0.82	-1.82
2	OP	-0.5098	0.1526	1.02	0.38	1.08	0.77
3	OP	0.1426	0.1482	1.00	0.09	1.09	0.94
4	OP	-0.1788	0.1491	0.94	-1.07	0.87	-1.38
5	OP	-0.6014	0.1540	0.98	-0.25	0.91	-0.76
6	OP	0.2282	0.1484	0.94	-1.10	1.10	1.07
7	OP	-0.0927	0.1486	1.01	0.12	0.98	-0.20
8	OP	0.5316	0.1503	1.05	0.80	1.09	0.91
9	OP	-0.2657	0.1497	1.02	0.35	1.00	0.06
10	OP	0.9914	0.1574	1.17	2.34	1.27	1.94
11	OP	-0.5098	0.1526	0.86	-2.59	0.84	-1.56
12	OP	1.2172	0.1628	1.20	2.51	1.30	1.91
13	OP	0.5758	0.1508	1.01	0.12	0.99	-0.05
14	OP	-0.2005	0.1492	1.10	1.86	1.28	2.71
15	OP	-0.4872	0.1523	0.89	-2.01	0.88	-1.12
16	OP	-0.5783	0.1537	0.90	-1.79	0.89	-1.02
17	OP	0.9914	0.1574	0.97	-0.44	0.97	-0.16
18	OP	0.3572	0.1489	0.97	-0.56	0.91	-0.91
19	OP	0.3356	0.1488	1.14	2.45	1.22	2.14
20	OP	-0.4199	0.1514	0.99	-0.23	0.92	-0.80
21	OP	-0.1788	0.1491	0.82	-3.61	0.77	-2.62
22	OP	-0.2657	0.1497	0.93	-1.32	0.87	-1.43
23	OP	-0.6014	0.1540	0.93	-1.25	0.83	-1.58
24	OP	0.9672	0.1569	1.09	1.29	1.10	0.78
25	OP	-0.7665	0.1573	0.91	-1.47	0.86	-1.13
26	OP	-0.5783	0.1537	0.78	-4.00	0.67	-3.42
27	OP	-0.0712	0.1485	1.14	2.64	1.15	1.58
28	OP	-0.0498	0.1484	0.92	-1.49	0.92	-0.88
29	OP	-0.0069	0.1483	1.19	3.52	1.27	2.77
30	OP	0.4440	0.1495	1.19	3.17	1.17	1.66
31	FT	-0.4596	0.2067	0.93	-0.94	0.83	-1.32
32	FT	1.2217	0.2192	1.24	2.26	1.37	1.70
33	FT	0.9450	0.2107	1.08	0.88	1.04	0.30
34	FT	0.2359	0.2007	1.06	0.90	1.02	0.24
35	FT	-0.2089	0.2027	0.89	-1.58	0.84	-1.36
36	FT	-1.2709	0.2355	0.89	-0.86	0.84	-0.78
37	FT	0.0750	0.2006	0.87	-2.01	0.80	-1.79
38	FT	0.6026	0.2038	0.98	-0.20	0.95	-0.29
39	FT	0.2824	0.2208	0.99	-0.04	0.93	-0.42
40	FT	0.2824	0.2208	0.97	-0.34	0.93	-0.46
41	FT	0.7849	0.2291	1.26	2.46	1.24	1.36
42	FT	0.1369	0.2199	1.04	0.46	0.99	-0.04
43	FT	-0.4479	0.2237	0.89	-1.33	0.81	-1.19
44	FT	-0.2503	0.2210	0.93	-0.94	0.87	-0.83
45	FT	-0.1045	0.2200	1.04	0.52	1.00	0.05
46	FT	-0.3485	0.2222	0.90	-1.27	0.81	-1.25

Appendix L:
Science Item Bank Difficulties

Grade 5 Science

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.7353	0.1473	0.92	-1.31	0.86	-1.21
2	OP	-1.0248	0.1545	1.02	0.30	1.03	0.22
3	OP	-0.0438	0.1388	0.96	-0.73	0.92	-0.90
4	OP	-0.4682	0.1427	0.83	-3.28	0.82	-1.80
5	OP	-0.7997	0.1487	0.94	-0.94	0.88	-0.99
6	OP	-0.7566	0.1478	1.03	0.50	1.27	2.06
7	OP	0.7575	0.1423	1.11	1.80	1.10	1.18
8	OP	-0.8215	0.1492	0.85	-2.48	0.75	-2.10
9	OP	0.1066	0.1384	1.04	0.80	1.03	0.38
10	OP	0.0127	0.1386	0.87	-2.87	0.83	-2.20
11	OP	-0.6099	0.1449	1.07	1.23	1.03	0.28
12	OP	0.4081	0.1391	0.94	-1.13	0.89	-1.36
13	OP	0.5227	0.1399	0.95	-0.95	0.94	-0.77
14	OP	-0.2917	0.1406	1.05	1.07	1.08	0.82
15	OP	-0.2148	0.1399	0.96	-0.85	0.90	-1.14
16	OP	0.5420	0.1400	1.04	0.74	1.04	0.48
17	OP	-0.0250	0.1388	1.19	3.72	1.25	2.77
18	OP	-1.0484	0.1552	0.93	-0.98	0.81	-1.38
19	OP	0.9405	0.1450	1.11	1.75	1.15	1.57
20	OP	-1.1946	0.1599	0.86	-1.80	0.75	-1.69
21	OP	-0.2339	0.1400	0.95	-0.98	0.94	-0.61
22	OP	-0.3500	0.1412	1.04	0.71	1.02	0.22
23	OP	-0.1957	0.1397	1.09	1.68	1.29	3.03
24	OP	0.1817	0.1384	0.89	-2.22	0.86	-1.80
25	OP	1.3120	0.1527	1.02	0.29	1.01	0.13
26	FT	-0.7252	0.2065	1.01	0.17	0.96	-0.19
27	FT	0.9272	0.2100	1.11	1.13	1.23	1.50
28	FT	0.3877	0.1992	0.81	-2.79	0.78	-1.99
29	FT	0.5888	0.2021	1.06	0.79	1.14	1.11
30	FT	-0.2374	0.1982	0.87	-2.03	0.80	-1.74
31	FT	-0.3958	0.2000	1.12	1.73	1.50	3.47
32	FT	0.5888	0.2021	0.84	-2.15	0.75	-2.10
33	FT	0.7972	0.2065	1.06	0.68	1.18	1.24
34	FT	1.2428	0.2072	0.98	-0.21	0.99	-0.06
35	FT	-0.8181	0.2129	0.80	-2.13	0.66	-1.90
36	FT	1.3297	0.2097	1.38	3.46	1.59	3.53
37	FT	-0.0029	0.1951	0.96	-0.51	0.91	-0.69
38	FT	0.6781	0.1962	1.33	3.96	1.38	3.18
39	FT	0.2238	0.1940	1.04	0.59	1.01	0.10
40	FT	-0.0029	0.1951	1.14	1.86	1.15	1.22
41	FT	0.8730	0.1989	0.85	-1.96	0.77	-2.15

Grade 8 Science

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-0.1682	0.1446	0.97	-0.64	1.09	0.97
2	OP	-0.0028	0.1437	0.92	-1.46	0.87	-1.56
3	OP	-0.2308	0.1451	1.03	0.66	1.14	1.40
4	OP	0.3886	0.1440	1.12	2.20	1.09	1.02
5	OP	-0.5960	0.1498	0.89	-1.93	0.84	-1.39
6	OP	-0.8246	0.1544	1.01	0.23	0.98	-0.09
7	OP	-0.8246	0.1544	0.94	-0.91	0.94	-0.46
8	OP	0.9259	0.1496	1.10	1.52	1.15	1.40
9	OP	-0.4214	0.1471	0.94	-1.07	0.87	-1.29
10	OP	-0.7545	0.1529	0.92	-1.32	0.84	-1.27
11	OP	0.3264	0.1437	0.97	-0.52	0.92	-0.91
12	OP	-0.4000	0.1468	0.91	-1.61	0.85	-1.55
13	OP	-1.2554	0.1672	0.90	-1.21	0.68	-2.07
14	OP	-0.2518	0.1452	1.03	0.66	1.10	1.06
15	OP	-0.4862	0.1480	0.90	-1.72	0.80	-1.94
16	OP	0.4093	0.1441	1.02	0.30	1.01	0.09
17	OP	-0.7315	0.1524	0.90	-1.51	0.93	-0.53
18	OP	0.4302	0.1442	1.09	1.60	1.08	0.93
19	OP	0.2233	0.1434	0.95	-0.95	0.90	-1.16
20	OP	1.3550	0.1587	1.29	3.45	1.47	3.16
21	OP	0.1616	0.1434	0.87	-2.65	0.80	-2.50
22	OP	-1.2554	0.1672	0.81	-2.31	0.61	-2.65
23	OP	0.5772	0.1453	1.07	1.15	1.07	0.78
24	OP	0.2439	0.1435	0.91	-1.81	0.85	-1.87
25	OP	0.4093	0.1441	0.98	-0.35	0.96	-0.48
26	FT	0.8704	0.2097	1.15	1.64	1.19	1.29
27	FT	-1.0299	0.2209	0.73	-2.94	0.56	-2.46
28	FT	0.1237	0.2006	1.06	0.79	1.23	1.80
29	FT	0.5716	0.2041	1.00	0.04	0.94	-0.41
30	FT	0.6977	0.2061	1.49	5.00	1.76	4.78
31	FT	0.5716	0.2041	1.14	1.67	1.09	0.72
32	FT	0.4477	0.2025	0.99	-0.16	0.95	-0.37
33	FT	0.1237	0.2006	0.97	-0.37	0.91	-0.75
34	FT	1.3602	0.2243	1.27	2.38	1.45	2.16
35	FT	-0.9192	0.2269	1.06	0.62	1.05	0.30
36	FT	0.2872	0.2050	0.98	-0.28	0.92	-0.64
37	FT	1.2610	0.2210	1.23	2.12	1.50	2.47
38	FT	-1.4971	0.2576	0.88	-0.79	0.82	-0.60
39	FT	0.2452	0.2049	1.12	1.61	1.10	0.87
40	FT	0.4134	0.2054	1.06	0.79	1.04	0.35
41	FT	0.1192	0.2051	1.01	0.20	1.04	0.36

High School Science

General		Rasch		Infit		Outfit	
Item	Usage	Measure	MeasureSE	MNSQ	ZSTD	MNSQ	ZSTD
1	OP	-1.0802	0.1688	0.93	-0.90	0.87	-0.79
2	OP	0.1025	0.1521	0.92	-1.39	0.88	-1.18
3	OP	-0.5343	0.1569	0.86	-2.27	0.82	-1.54
4	OP	-0.1533	0.1530	1.18	2.84	1.22	2.01
5	OP	-1.5405	0.1858	0.87	-1.27	0.64	-1.96
6	OP	-0.3894	0.1550	0.99	-0.14	0.97	-0.24
7	OP	-0.7336	0.1603	0.77	-3.63	0.64	-3.18
8	OP	-0.5834	0.1576	0.81	-3.15	0.72	-2.54
9	OP	-0.0368	0.1524	1.06	1.07	1.07	0.73
10	OP	-0.9970	0.1664	1.06	0.85	1.00	0.06
11	OP	0.3119	0.1525	1.07	1.15	1.02	0.21
12	OP	-0.8367	0.1625	0.75	-3.85	0.59	-3.52
13	OP	-0.5343	0.1569	1.03	0.56	1.06	0.52
14	OP	-0.4856	0.1562	1.00	-0.05	0.95	-0.44
15	OP	-0.4856	0.1562	0.76	-4.26	0.63	-3.65
16	OP	0.2652	0.1523	0.94	-0.92	0.88	-1.15
17	OP	0.4292	0.1530	1.10	1.56	1.10	0.96
18	OP	0.7660	0.1562	1.07	1.09	1.06	0.54
19	OP	-0.7083	0.1598	0.95	-0.77	0.83	-1.34
20	OP	0.8155	0.1568	1.08	1.20	1.08	0.66
21	OP	-0.1300	0.1528	0.95	-0.79	1.12	1.14
22	OP	-0.0136	0.1523	1.09	1.55	1.08	0.80
23	OP	-0.2001	0.1533	0.85	-2.61	0.81	-1.89
24	OP	-0.8629	0.1631	0.95	-0.70	0.85	-1.07
25	OP	0.5240	0.1537	1.00	0.01	0.94	-0.47
26	OP	-0.2471	0.1536	1.15	2.37	1.09	0.82
27	OP	0.3587	0.1527	0.98	-0.37	0.93	-0.63
28	OP	0.4529	0.1532	1.21	3.13	1.24	2.06
29	FT	1.0658	0.2153	1.21	2.14	1.30	1.51
30	FT	0.2790	0.2059	1.53	5.61	1.67	4.20
31	FT	-1.0930	0.2330	0.85	-1.33	0.70	-1.55
32	FT	-0.1040	0.2075	0.93	-0.89	0.94	-0.40
33	FT	0.2367	0.2058	1.52	5.57	1.65	4.14
34	FT	0.1943	0.2059	1.01	0.19	0.95	-0.32
35	FT	0.0244	0.2065	0.81	-2.48	0.76	-1.91
36	FT	1.0658	0.2153	1.09	1.01	1.12	0.67
37	FT	-0.5188	0.2297	0.90	-1.11	0.87	-0.70
38	FT	0.5619	0.2301	1.36	3.21	1.46	2.26
39	FT	-0.3106	0.2268	0.91	-1.08	0.80	-1.23
40	FT	-0.2081	0.2260	1.03	0.35	0.97	-0.11
41	FT	0.5091	0.2293	1.14	1.42	1.11	0.66
42	FT	-0.1571	0.2257	0.89	-1.27	0.82	-1.09
43	FT	-0.1571	0.2257	1.13	1.54	1.15	0.92
44	FT	-0.0554	0.2254	1.02	0.29	0.96	-0.19

Appendix M:

ELA Raw-to-Scale Conversion Tables and Distributions of Ability

The tables show the raw score and percentile for any scale score. It also includes counts and percentages at each score. The performance level *On Track* begins at a scale score of 200 and *Advanced* begins at a scale score of 250. *Developing* is a Scale Score of 199 and below.

Grade 3 ELA

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	3	ELA	0	11	4.66	11	4.66	1	101	47
2024	3	ELA	1	1	0.42	12	5.08	2	117	26
2024	3	ELA	2	0	0.00	12	5.08	2	136	19
2024	3	ELA	3	0	0.00	12	5.08	2	148	16
2024	3	ELA	4	3	1.27	15	6.36	2	157	14
2024	3	ELA	5	0	0.00	15	6.36	3	164	13
2024	3	ELA	6	0	0.00	15	6.36	3	171	12
2024	3	ELA	7	7	2.97	22	9.32	5	176	12
2024	3	ELA	8	8	3.39	30	12.71	8	182	11
2024	3	ELA	9	12	5.08	42	17.80	12	186	11
2024	3	ELA	10	8	3.39	50	21.19	17	191	11
2024	3	ELA	11	12	5.08	62	26.27	21	196	11
2024	3	ELA	12	19	8.05	81	34.32	28	200	10
2024	3	ELA	13	15	6.36	96	40.68	35	204	10
2024	3	ELA	14	15	6.36	111	47.03	42	208	10
2024	3	ELA	15	19	8.05	130	55.08	49	212	10
2024	3	ELA	16	16	6.78	146	61.86	57	217	10
2024	3	ELA	17	12	5.08	158	66.95	63	221	11
2024	3	ELA	18	10	4.24	168	71.19	68	225	11
2024	3	ELA	19	15	6.36	183	77.54	73	230	11
2024	3	ELA	20	7	2.97	190	80.51	78	235	11
2024	3	ELA	21	7	2.97	197	83.47	81	240	12
2024	3	ELA	22	6	2.54	203	86.02	84	246	12
2024	3	ELA	23	17	7.20	220	93.22	89	252	13
2024	3	ELA	24	4	1.69	224	94.92	94	259	14
2024	3	ELA	25	5	2.12	229	97.03	96	268	16
2024	3	ELA	26	2	0.85	231	97.88	97	280	19
2024	3	ELA	27	4	1.69	235	99.58	99	299	26
2024	3	ELA	28	1	0.42	236	100.00	99	300	47

Grade 4 ELA

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	4	ELA	0	10	3.95	10	3.95	1	102	41
2024	4	ELA	1	2	0.79	12	4.74	2	129	23
2024	4	ELA	2	3	1.19	15	5.93	2	146	17
2024	4	ELA	3	0	0.00	15	5.93	2	156	14
2024	4	ELA	4	2	0.79	17	6.72	2	164	12
2024	4	ELA	5	0	0.00	17	6.72	3	170	11
2024	4	ELA	6	5	1.98	22	8.70	3	176	11
2024	4	ELA	7	6	2.37	28	11.07	5	181	10
2024	4	ELA	8	8	3.16	36	14.23	8	185	10
2024	4	ELA	9	13	5.14	49	19.37	12	189	9
2024	4	ELA	10	20	7.91	69	27.27	17	193	9
2024	4	ELA	11	15	5.93	84	33.20	21	197	9
2024	4	ELA	12	15	5.93	99	39.13	28	200	9
2024	4	ELA	13	17	6.72	116	45.85	35	204	9
2024	4	ELA	14	12	4.74	128	50.59	42	208	9
2024	4	ELA	15	13	5.14	141	55.73	49	211	9
2024	4	ELA	16	20	7.91	161	63.64	57	215	9
2024	4	ELA	17	11	4.35	172	67.98	63	218	9
2024	4	ELA	18	9	3.56	181	71.54	68	222	9
2024	4	ELA	19	20	7.91	201	79.45	73	226	9
2024	4	ELA	20	12	4.74	213	84.19	78	230	10
2024	4	ELA	21	13	5.14	226	89.33	81	234	10
2024	4	ELA	22	9	3.56	235	92.89	84	239	11
2024	4	ELA	23	5	1.98	240	94.86	89	244	11
2024	4	ELA	24	5	1.98	245	96.84	94	251	12
2024	4	ELA	25	3	1.19	248	98.02	96	258	14
2024	4	ELA	26	5	1.98	253	100.00	97	269	17
2024	4	ELA	27	0	0.00	253	100.00	99	285	23
2024	4	ELA	28	0	0.00	253	100.00	99	300	41

Grade 5 ELA

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	5	ELA	0	8	3.01	8	3.01	1	101	48
2024	5	ELA	1	2	0.75	10	3.76	2	109	27
2024	5	ELA	2	2	0.75	12	4.51	2	129	19
2024	5	ELA	3	1	0.38	13	4.89	2	141	16
2024	5	ELA	4	2	0.75	15	5.64	2	150	14
2024	5	ELA	5	1	0.38	16	6.02	3	157	13
2024	5	ELA	6	5	1.88	21	7.89	3	163	12
2024	5	ELA	7	10	3.76	31	11.65	5	169	12
2024	5	ELA	8	5	1.88	36	13.53	8	174	11
2024	5	ELA	9	12	4.51	48	18.05	12	179	11
2024	5	ELA	10	9	3.38	57	21.43	17	184	11
2024	5	ELA	11	20	7.52	77	28.95	21	188	11
2024	5	ELA	12	21	7.89	98	36.84	28	192	10
2024	5	ELA	13	15	5.64	113	42.48	35	196	10
2024	5	ELA	14	16	6.02	129	48.50	42	200	10
2024	5	ELA	15	15	5.64	144	54.14	49	204	10
2024	5	ELA	16	15	5.64	159	59.77	57	208	10
2024	5	ELA	17	23	8.65	182	68.42	63	213	11
2024	5	ELA	18	12	4.51	194	72.93	68	217	11
2024	5	ELA	19	9	3.38	203	76.32	73	221	11
2024	5	ELA	20	10	3.76	213	80.08	78	226	11
2024	5	ELA	21	15	5.64	228	85.71	81	231	12
2024	5	ELA	22	8	3.01	236	88.72	84	237	12
2024	5	ELA	23	13	4.89	249	93.61	89	243	13
2024	5	ELA	24	9	3.38	258	96.99	94	250	14
2024	5	ELA	25	2	0.75	260	97.74	96	259	16
2024	5	ELA	26	5	1.88	265	99.62	97	271	19
2024	5	ELA	27	1	0.38	266	100.00	99	291	27
2024	5	ELA	28	0	0.00	266	100.00	99	300	48

Grade 6 ELA

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	6	ELA	0	14	5.30	14	5.30	1	101	46
2024	6	ELA	1	1	0.38	15	5.68	2	117	26
2024	6	ELA	2	0	0.00	15	5.68	2	135	19
2024	6	ELA	3	1	0.38	16	6.06	2	147	16
2024	6	ELA	4	1	0.38	17	6.44	2	155	14
2024	6	ELA	5	3	1.14	20	7.58	3	162	13
2024	6	ELA	6	1	0.38	21	7.95	3	168	12
2024	6	ELA	7	6	2.27	27	10.23	5	174	11
2024	6	ELA	8	10	3.79	37	14.02	8	178	11
2024	6	ELA	9	13	4.92	50	18.94	12	183	11
2024	6	ELA	10	18	6.82	68	25.76	17	187	10
2024	6	ELA	11	18	6.82	86	32.58	21	191	10
2024	6	ELA	12	15	5.68	101	38.26	28	195	10
2024	6	ELA	13	21	7.95	122	46.21	35	199	10
2024	6	ELA	14	21	7.95	143	54.17	42	203	10
2024	6	ELA	15	15	5.68	158	59.85	49	207	10
2024	6	ELA	16	19	7.20	177	67.05	57	211	10
2024	6	ELA	17	15	5.68	192	72.73	63	215	10
2024	6	ELA	18	9	3.41	201	76.14	68	219	10
2024	6	ELA	19	7	2.65	208	78.79	73	224	11
2024	6	ELA	20	17	6.44	225	85.23	78	228	11
2024	6	ELA	21	10	3.79	235	89.02	81	233	11
2024	6	ELA	22	6	2.27	241	91.29	84	239	12
2024	6	ELA	23	9	3.41	250	94.70	89	245	13
2024	6	ELA	24	4	1.52	254	96.21	94	252	14
2024	6	ELA	25	4	1.52	258	97.73	96	260	16
2024	6	ELA	26	3	1.14	261	98.86	97	272	19
2024	6	ELA	27	3	1.14	264	100.00	99	291	26
2024	6	ELA	28	0	0.00	264	100.00	99	300	46

Grade 7 ELA

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	7	ELA	0	10	4.10	10	4.10	1	101	48
2024	7	ELA	1	7	2.87	17	6.97	2	108	27
2024	7	ELA	2	2	0.82	19	7.79	2	127	19
2024	7	ELA	3	0	0.00	19	7.79	2	139	16
2024	7	ELA	4	1	0.41	20	8.20	2	148	14
2024	7	ELA	5	4	1.64	24	9.84	3	156	13
2024	7	ELA	6	4	1.64	28	11.48	3	162	12
2024	7	ELA	7	8	3.28	36	14.75	5	168	12
2024	7	ELA	8	3	1.23	39	15.98	8	173	11
2024	7	ELA	9	16	6.56	55	22.54	12	178	11
2024	7	ELA	10	13	5.33	68	27.87	17	183	11
2024	7	ELA	11	10	4.10	78	31.97	21	187	11
2024	7	ELA	12	13	5.33	91	37.30	28	191	10
2024	7	ELA	13	13	5.33	104	42.62	35	195	10
2024	7	ELA	14	11	4.51	115	47.13	42	199	10
2024	7	ELA	15	20	8.20	135	55.33	49	204	10
2024	7	ELA	16	18	7.38	153	62.70	57	208	10
2024	7	ELA	17	9	3.69	162	66.39	63	212	10
2024	7	ELA	18	16	6.56	178	72.95	68	216	11
2024	7	ELA	19	8	3.28	186	76.23	73	221	11
2024	7	ELA	20	12	4.92	198	81.15	78	225	11
2024	7	ELA	21	6	2.46	204	83.61	81	230	12
2024	7	ELA	22	8	3.28	212	86.89	84	236	12
2024	7	ELA	23	10	4.10	222	90.98	89	242	13
2024	7	ELA	24	9	3.69	231	94.67	94	249	14
2024	7	ELA	25	7	2.87	238	97.54	96	258	16
2024	7	ELA	26	3	1.23	241	98.77	97	270	19
2024	7	ELA	27	3	1.23	244	100.00	99	289	26
2024	7	ELA	28	0	0.00	244	100.00	99	300	48

Grade 8 ELA

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	8	ELA	0	6	2.38	6	2.38	1	101	45
2024	8	ELA	1	2	0.79	8	3.17	2	119	25
2024	8	ELA	2	0	0.00	8	3.17	2	137	18
2024	8	ELA	3	1	0.40	9	3.57	2	148	15
2024	8	ELA	4	0	0.00	9	3.57	2	157	13
2024	8	ELA	5	0	0.00	9	3.57	3	163	12
2024	8	ELA	6	4	1.59	13	5.16	3	169	12
2024	8	ELA	7	5	1.98	18	7.14	5	174	11
2024	8	ELA	8	11	4.37	29	11.51	8	179	11
2024	8	ELA	9	11	4.37	40	15.87	12	184	10
2024	8	ELA	10	19	7.54	59	23.41	17	188	10
2024	8	ELA	11	16	6.35	75	29.76	21	192	10
2024	8	ELA	12	15	5.95	90	35.71	28	196	10
2024	8	ELA	13	26	10.32	116	46.03	35	199	10
2024	8	ELA	14	14	5.56	130	51.59	42	203	10
2024	8	ELA	15	18	7.14	148	58.73	49	207	10
2024	8	ELA	16	6	2.38	154	61.11	57	211	10
2024	8	ELA	17	12	4.76	166	65.87	63	215	10
2024	8	ELA	18	10	3.97	176	69.84	68	219	10
2024	8	ELA	19	11	4.37	187	74.21	73	223	10
2024	8	ELA	20	9	3.57	196	77.78	78	227	11
2024	8	ELA	21	10	3.97	206	81.75	81	232	11
2024	8	ELA	22	6	2.38	212	84.13	84	237	12
2024	8	ELA	23	9	3.57	221	87.70	89	243	12
2024	8	ELA	24	11	4.37	232	92.06	94	250	13
2024	8	ELA	25	4	1.59	236	93.65	96	258	15
2024	8	ELA	26	9	3.57	245	97.22	97	269	18
2024	8	ELA	27	4	1.59	249	98.81	99	287	25
2024	8	ELA	28	3	1.19	252	100.00	99	300	45

High School ELA

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	HS	ELA	0	3	1.33	3	1.33	1	101	38
2024	HS	ELA	1	5	2.22	8	3.56	2	121	21
2024	HS	ELA	2	1	0.44	9	4.00	2	137	15
2024	HS	ELA	3	2	0.89	11	4.89	2	146	13
2024	HS	ELA	4	0	0.00	11	4.89	2	153	11
2024	HS	ELA	5	1	0.44	12	5.33	3	159	10
2024	HS	ELA	6	1	0.44	13	5.78	3	164	10
2024	HS	ELA	7	5	2.22	18	8.00	5	168	9
2024	HS	ELA	8	5	2.22	23	10.22	8	172	9
2024	HS	ELA	9	9	4.00	32	14.22	12	176	9
2024	HS	ELA	10	9	4.00	41	18.22	17	180	8
2024	HS	ELA	11	19	8.44	60	26.67	21	183	8
2024	HS	ELA	12	24	10.67	84	37.33	28	186	8
2024	HS	ELA	13	11	4.89	95	42.22	35	189	8
2024	HS	ELA	14	11	4.89	106	47.11	42	193	8
2024	HS	ELA	15	11	4.89	117	52.00	49	196	8
2024	HS	ELA	16	10	4.44	127	56.44	57	199	8
2024	HS	ELA	17	5	2.22	132	58.67	63	202	8
2024	HS	ELA	18	10	4.44	142	63.11	68	206	8
2024	HS	ELA	19	11	4.89	153	68.00	73	209	9
2024	HS	ELA	20	6	2.67	159	70.67	78	213	9
2024	HS	ELA	21	11	4.89	170	75.56	81	217	9
2024	HS	ELA	22	5	2.22	175	77.78	84	221	10
2024	HS	ELA	23	9	4.00	184	81.78	89	226	10
2024	HS	ELA	24	6	2.67	190	84.44	94	232	11
2024	HS	ELA	25	11	4.89	201	89.33	96	239	13
2024	HS	ELA	26	13	5.78	214	95.11	97	248	15
2024	HS	ELA	27	9	4.00	223	99.11	99	264	21
2024	HS	ELA	28	2	0.89	225	100.00	99	289	38

Appendix N:

Mathematics Raw-to-Scale Conversion Tables and Distributions of Ability

The tables show the raw score and percentile for any scale score. It also includes counts and percentages at each score. The performance level *On Track* begins at a scale score of 200 and *Advanced* varies by grade. *Developing* is a Scale Score of 199 and below.

Grade 3 Mathematics – Form A

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	3	MATH	0	7	5.65	7	5.65	1	101	43
2024	3	MATH	1	0	0.00	7	5.65	1	114	24
2024	3	MATH	2	0	0.00	7	5.65	2	131	17
2024	3	MATH	3	1	0.81	8	6.45	2	142	15
2024	3	MATH	4	0	0.00	8	6.45	3	150	13
2024	3	MATH	5	3	2.42	11	8.87	4	157	12
2024	3	MATH	6	3	2.42	14	11.29	6	162	11
2024	3	MATH	7	4	3.23	18	14.52	10	167	11
2024	3	MATH	8	6	4.84	24	19.35	15	172	10
2024	3	MATH	9	6	4.84	30	24.19	19	176	10
2024	3	MATH	10	12	9.68	42	33.87	26	181	10
2024	3	MATH	11	8	6.45	50	40.32	32	184	10
2024	3	MATH	12	9	7.26	59	47.58	38	188	9
2024	3	MATH	13	9	7.26	68	54.84	45	192	9
2024	3	MATH	14	5	4.03	73	58.87	50	196	9
2024	3	MATH	15	8	6.45	81	65.32	57	200	9
2024	3	MATH	16	5	4.03	86	69.35	63	203	9
2024	3	MATH	17	8	6.45	94	75.81	70	207	10
2024	3	MATH	18	6	4.84	100	80.65	75	211	10
2024	3	MATH	19	4	3.23	104	83.87	80	215	10
2024	3	MATH	20	6	4.84	110	88.71	84	219	10
2024	3	MATH	21	4	3.23	114	91.94	89	224	11
2024	3	MATH	22	3	2.42	117	94.35	92	229	11
2024	3	MATH	23	2	1.61	119	95.97	95	235	12
2024	3	MATH	24	1	0.81	120	96.77	96	241	13
2024	3	MATH	25	1	0.81	121	97.58	98	250	15
2024	3	MATH	26	1	0.81	122	98.39	98	260	17
2024	3	MATH	27	2	1.61	124	100.00	99	278	24
2024	3	MATH	28	0	0.00	124	100.00	99	300	43

Grade 3 Mathematics – Form B

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	3	MATH	0	4	3.57	4	3.57	1	101	43
2024	3	MATH	1	0	0.00	4	3.57	1	113	24
2024	3	MATH	2	2	1.79	6	5.36	2	131	17
2024	3	MATH	3	0	0.00	6	5.36	2	141	15
2024	3	MATH	4	0	0.00	6	5.36	3	150	13
2024	3	MATH	5	2	1.79	8	7.14	3	156	12
2024	3	MATH	6	4	3.57	12	10.71	6	162	11
2024	3	MATH	7	6	5.36	18	16.07	10	167	11
2024	3	MATH	8	6	5.36	24	21.43	15	172	10
2024	3	MATH	9	1	0.89	25	22.32	19	176	10
2024	3	MATH	10	7	6.25	32	28.57	22	180	10
2024	3	MATH	11	6	5.36	38	33.93	32	184	10
2024	3	MATH	12	6	5.36	44	39.29	38	188	9
2024	3	MATH	13	3	2.68	47	41.96	42	191	9
2024	3	MATH	14	4	3.57	51	45.54	48	195	9
2024	3	MATH	15	11	9.82	62	55.36	53	199	9
2024	3	MATH	16	10	8.93	72	64.29	63	203	9
2024	3	MATH	17	5	4.46	77	68.75	67	206	9
2024	3	MATH	18	5	4.46	82	73.21	73	210	10
2024	3	MATH	19	6	5.36	88	78.57	78	214	10
2024	3	MATH	20	7	6.25	95	84.82	84	219	10
2024	3	MATH	21	4	3.57	99	88.39	87	223	11
2024	3	MATH	22	3	2.68	102	91.07	91	228	11
2024	3	MATH	23	4	3.57	106	94.64	93	234	12
2024	3	MATH	24	2	1.79	108	96.43	96	240	13
2024	3	MATH	25	2	1.79	110	98.21	97	249	15
2024	3	MATH	26	0	0.00	110	98.21	98	259	17
2024	3	MATH	27	2	1.79	112	100.00	99	277	24
2024	3	MATH	28	0	0.00	112	100.00	99	300	43

Grade 4 Mathematics

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	4	MATH	0	5	2.02	5	2.02	1	103	41
2024	4	MATH	1	1	0.40	6	2.43	1	130	23
2024	4	MATH	2	1	0.40	7	2.83	1	147	16
2024	4	MATH	3	0	0.00	7	2.83	1	156	14
2024	4	MATH	4	3	1.21	10	4.05	1	164	12
2024	4	MATH	5	2	0.81	12	4.86	2	170	11
2024	4	MATH	6	5	2.02	17	6.88	4	175	10
2024	4	MATH	7	9	3.64	26	10.53	7	179	10
2024	4	MATH	8	10	4.05	36	14.57	11	183	9
2024	4	MATH	9	10	4.05	46	18.62	15	187	9
2024	4	MATH	10	22	8.91	68	27.53	21	191	9
2024	4	MATH	11	29	11.74	97	39.27	32	194	9
2024	4	MATH	12	19	7.69	116	46.96	42	197	8
2024	4	MATH	13	21	8.50	137	55.47	50	201	8
2024	4	MATH	14	7	2.83	144	58.30	56	204	8
2024	4	MATH	15	14	5.67	158	63.97	60	207	8
2024	4	MATH	16	11	4.45	169	68.42	65	210	8
2024	4	MATH	17	8	3.24	177	71.66	69	213	8
2024	4	MATH	18	9	3.64	186	75.30	73	216	8
2024	4	MATH	19	10	4.05	196	79.35	77	219	9
2024	4	MATH	20	9	3.64	205	83.00	81	223	9
2024	4	MATH	21	8	3.24	213	86.23	84	226	9
2024	4	MATH	22	11	4.45	224	90.69	88	230	9
2024	4	MATH	23	3	1.21	227	91.90	91	234	10
2024	4	MATH	24	5	2.02	232	93.93	93	239	10
2024	4	MATH	25	4	1.62	236	95.55	95	244	11
2024	4	MATH	26	3	1.21	239	96.76	96	250	12
2024	4	MATH	27	6	2.43	245	99.19	98	257	14
2024	4	MATH	28	2	0.81	247	100.00	99	267	16
2024	4	MATH	29	0	0.00	247	100.00	99	283	23
2024	4	MATH	30	0	0.00	247	100.00	99	300	41

Grade 5 Mathematics

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	5	MATH	0	7	2.66	7	2.66	1	101	41
2024	5	MATH	1	3	1.14	10	3.80	1	128	23
2024	5	MATH	2	0	0.00	10	3.80	2	145	17
2024	5	MATH	3	0	0.00	10	3.80	2	155	14
2024	5	MATH	4	5	1.90	15	5.70	3	162	12
2024	5	MATH	5	1	0.38	16	6.08	4	168	11
2024	5	MATH	6	5	1.90	21	7.98	5	173	10
2024	5	MATH	7	5	1.90	26	9.89	7	178	10
2024	5	MATH	8	14	5.32	40	15.21	11	182	9
2024	5	MATH	9	16	6.08	56	21.29	16	186	9
2024	5	MATH	10	17	6.46	73	27.76	23	190	9
2024	5	MATH	11	25	9.51	98	37.26	31	193	9
2024	5	MATH	12	25	9.51	123	46.77	41	196	9
2024	5	MATH	13	10	3.80	133	50.57	47	200	8
2024	5	MATH	14	18	6.84	151	57.41	53	203	8
2024	5	MATH	15	16	6.08	167	63.50	60	206	8
2024	5	MATH	16	16	6.08	183	69.58	66	209	8
2024	5	MATH	17	11	4.18	194	73.76	71	212	8
2024	5	MATH	18	10	3.80	204	77.57	75	215	9
2024	5	MATH	19	12	4.56	216	82.13	79	219	9
2024	5	MATH	20	7	2.66	223	84.79	83	222	9
2024	5	MATH	21	8	3.04	231	87.83	86	226	9
2024	5	MATH	22	10	3.80	241	91.63	89	230	9
2024	5	MATH	23	4	1.52	245	93.16	92	234	10
2024	5	MATH	24	4	1.52	249	94.68	94	238	10
2024	5	MATH	25	4	1.52	253	96.20	95	243	11
2024	5	MATH	26	2	0.76	255	96.96	96	250	12
2024	5	MATH	27	4	1.52	259	98.48	98	257	14
2024	5	MATH	28	2	0.76	261	99.24	99	267	17
2024	5	MATH	29	2	0.76	263	100.00	99	284	23
2024	5	MATH	30	0	0.00	263	100.00	99	300	41

Grade 6 Mathematics

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	6	MATH	0	14	5.43	14	5.43	1	120	32
2024	6	MATH	1	1	0.39	15	5.81	1	142	18
2024	6	MATH	2	0	0.00	15	5.81	2	154	13
2024	6	MATH	3	1	0.39	16	6.20	2	162	11
2024	6	MATH	4	1	0.39	17	6.59	2	168	9
2024	6	MATH	5	2	0.78	19	7.36	3	173	9
2024	6	MATH	6	3	1.16	22	8.53	4	177	8
2024	6	MATH	7	2	0.78	24	9.30	5	180	8
2024	6	MATH	8	9	3.49	33	12.79	7	183	7
2024	6	MATH	9	14	5.43	47	18.22	12	186	7
2024	6	MATH	10	14	5.43	61	23.64	17	189	7
2024	6	MATH	11	18	6.98	79	30.62	24	192	7
2024	6	MATH	12	27	10.47	106	41.09	33	195	7
2024	6	MATH	13	18	6.98	124	48.06	42	197	7
2024	6	MATH	14	16	6.20	140	54.26	49	200	7
2024	6	MATH	15	9	3.49	149	57.75	54	202	6
2024	6	MATH	16	14	5.43	163	63.18	59	204	7
2024	6	MATH	17	11	4.26	174	67.44	64	207	7
2024	6	MATH	18	11	4.26	185	71.71	68	209	7
2024	6	MATH	19	10	3.88	195	75.58	72	212	7
2024	6	MATH	20	14	5.43	209	81.01	77	215	7
2024	6	MATH	21	12	4.65	221	85.66	83	218	7
2024	6	MATH	22	4	1.55	225	87.21	86	220	7
2024	6	MATH	23	8	3.10	233	90.31	88	224	8
2024	6	MATH	24	11	4.26	244	94.57	92	227	8
2024	6	MATH	25	2	0.78	246	95.35	95	231	9
2024	6	MATH	26	6	2.33	252	97.67	96	236	9
2024	6	MATH	27	2	0.78	254	98.45	98	242	11
2024	6	MATH	28	1	0.39	255	98.84	99	250	13
2024	6	MATH	29	3	1.16	258	100.00	99	262	18
2024	6	MATH	30	0	0.00	258	100.00	99	283	32

Grade 7 Mathematics

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	7	MATH	0	13	5.46	13	5.46	1	101	55
2024	7	MATH	1	4	1.68	17	7.14	3	101	30
2024	7	MATH	2	2	0.84	19	7.98	4	118	22
2024	7	MATH	3	1	0.42	20	8.40	5	132	18
2024	7	MATH	4	1	0.42	21	8.82	5	142	16
2024	7	MATH	5	2	0.84	23	9.66	6	150	15
2024	7	MATH	6	5	2.10	28	11.76	7	156	14
2024	7	MATH	7	2	0.84	30	12.61	9	162	13
2024	7	MATH	8	3	1.26	33	13.87	10	168	13
2024	7	MATH	9	10	4.20	43	18.07	13	173	12
2024	7	MATH	10	16	6.72	59	24.79	18	178	12
2024	7	MATH	11	11	4.62	70	29.41	24	182	12
2024	7	MATH	12	19	7.98	89	37.39	31	187	11
2024	7	MATH	13	16	6.72	105	44.12	38	191	11
2024	7	MATH	14	16	6.72	121	50.84	45	195	11
2024	7	MATH	15	13	5.46	134	56.30	52	200	11
2024	7	MATH	16	16	6.72	150	63.03	58	204	11
2024	7	MATH	17	16	6.72	166	69.75	65	208	11
2024	7	MATH	18	14	5.88	180	75.63	72	212	11
2024	7	MATH	19	9	3.78	189	79.41	77	217	12
2024	7	MATH	20	10	4.20	199	83.61	81	221	12
2024	7	MATH	21	8	3.36	207	86.97	85	226	12
2024	7	MATH	22	8	3.36	215	90.34	88	231	13
2024	7	MATH	23	8	3.36	223	93.70	92	237	13
2024	7	MATH	24	7	2.94	230	96.64	95	243	14
2024	7	MATH	25	2	0.84	232	97.48	97	250	15
2024	7	MATH	26	5	2.10	237	99.58	98	258	16
2024	7	MATH	27	1	0.42	238	100.00	99	267	18
2024	7	MATH	28	0	0.00	238	100.00	99	281	22
2024	7	MATH	29	0	0.00	238	100.00	99	300	30
2024	7	MATH	30	0	0.00	238	100.00	99	300	55

Grade 8 Mathematics

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	8	MATH	0	3	1.20	3	1.20	1	101	44
2024	8	MATH	1	2	0.80	5	2.01	1	120	24
2024	8	MATH	2	4	1.61	9	3.61	2	137	18
2024	8	MATH	3	2	0.80	11	4.42	3	148	15
2024	8	MATH	4	1	0.40	12	4.82	4	156	13
2024	8	MATH	5	1	0.40	13	5.22	4	162	12
2024	8	MATH	6	1	0.40	14	5.62	5	168	11
2024	8	MATH	7	3	1.20	17	6.83	5	173	11
2024	8	MATH	8	10	4.02	27	10.84	8	177	10
2024	8	MATH	9	12	4.82	39	15.66	13	181	10
2024	8	MATH	10	16	6.43	55	22.09	18	185	9
2024	8	MATH	11	23	9.24	78	31.33	26	189	9
2024	8	MATH	12	23	9.24	101	40.56	35	193	9
2024	8	MATH	13	18	7.23	119	47.79	44	196	9
2024	8	MATH	14	17	6.83	136	54.62	51	200	9
2024	8	MATH	15	10	4.02	146	58.63	56	203	9
2024	8	MATH	16	12	4.82	158	63.45	61	206	9
2024	8	MATH	17	18	7.23	176	70.68	67	210	9
2024	8	MATH	18	10	4.02	186	74.70	72	213	9
2024	8	MATH	19	10	4.02	196	78.71	77	217	9
2024	8	MATH	20	9	3.61	205	82.33	80	220	9
2024	8	MATH	21	9	3.61	214	85.94	84	224	10
2024	8	MATH	22	2	0.80	216	86.75	86	228	10
2024	8	MATH	23	11	4.42	227	91.16	89	233	10
2024	8	MATH	24	8	3.21	235	94.38	93	238	11
2024	8	MATH	25	4	1.61	239	95.98	95	243	12
2024	8	MATH	26	3	1.20	242	97.19	97	250	13
2024	8	MATH	27	1	0.40	243	97.59	97	257	15
2024	8	MATH	28	2	0.80	245	98.39	98	268	17
2024	8	MATH	29	2	0.80	247	99.20	99	286	24
2024	8	MATH	30	2	0.80	249	100.00	99	300	44

High School Mathematics

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	HS	MATH	0	5	2.21	5	2.21	1	101	43
2024	HS	MATH	1	2	0.88	7	3.10	1	112	24
2024	HS	MATH	2	3	1.33	10	4.42	2	130	17
2024	HS	MATH	3	1	0.44	11	4.87	3	140	14
2024	HS	MATH	4	0	0.00	11	4.87	3	148	13
2024	HS	MATH	5	1	0.44	12	5.31	3	154	12
2024	HS	MATH	6	1	0.44	13	5.75	4	160	11
2024	HS	MATH	7	5	2.21	18	7.96	5	165	10
2024	HS	MATH	8	3	1.33	21	9.29	7	169	10
2024	HS	MATH	9	17	7.52	38	16.81	11	173	10
2024	HS	MATH	10	16	7.08	54	23.89	19	177	9
2024	HS	MATH	11	12	5.31	66	29.20	25	181	9
2024	HS	MATH	12	14	6.19	80	35.40	31	184	9
2024	HS	MATH	13	13	5.75	93	41.15	37	188	9
2024	HS	MATH	14	14	6.19	107	47.35	43	191	9
2024	HS	MATH	15	10	4.42	117	51.77	49	194	9
2024	HS	MATH	16	11	4.87	128	56.64	53	198	9
2024	HS	MATH	17	6	2.65	134	59.29	57	201	9
2024	HS	MATH	18	11	4.87	145	64.16	61	205	9
2024	HS	MATH	19	16	7.08	161	71.24	67	208	9
2024	HS	MATH	20	10	4.42	171	75.66	73	212	9
2024	HS	MATH	21	5	2.21	176	77.88	76	216	10
2024	HS	MATH	22	12	5.31	188	83.19	80	220	10
2024	HS	MATH	23	11	4.87	199	88.05	85	225	11
2024	HS	MATH	24	9	3.98	208	92.04	90	229	11
2024	HS	MATH	25	6	2.65	214	94.69	93	235	12
2024	HS	MATH	26	6	2.65	220	97.35	96	242	13
2024	HS	MATH	27	2	0.88	222	98.23	98	250	15
2024	HS	MATH	28	2	0.88	224	99.12	99	260	17
2024	HS	MATH	29	1	0.44	225	99.56	99	278	24
2024	HS	MATH	30	1	0.44	226	100.00	99	300	43

Appendix O:

Science Raw-to-Scale Conversion Tables and Distributions of Ability

The tables show the raw score and percentile for any scale score. It also includes counts and percentages at each score. The performance level *On Track* begins at a scale score of 200 and *Advanced* varies begins at a scale score of 250. *Developing* is a Scale Score of 199 and below.

Grade 5 Science

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	5	SCIENCE	0	9	3.41	9	9.00	1	101	54
2024	5	SCIENCE	1	1	0.38	10	9.38	3	101	30
2024	5	SCIENCE	2	0	0.00	10	9.38	3	105	22
2024	5	SCIENCE	3	0	0.00	10	9.38	4	118	18
2024	5	SCIENCE	4	3	1.14	13	10.52	4	129	16
2024	5	SCIENCE	5	2	0.76	15	11.27	5	137	15
2024	5	SCIENCE	6	4	1.52	19	12.79	7	144	14
2024	5	SCIENCE	7	9	3.41	28	16.20	11	151	14
2024	5	SCIENCE	8	9	3.41	37	19.61	16	157	13
2024	5	SCIENCE	9	11	4.17	48	23.77	20	163	13
2024	5	SCIENCE	10	31	11.74	79	35.52	26	168	13
2024	5	SCIENCE	11	9	3.41	88	38.92	33	173	12
2024	5	SCIENCE	12	17	6.44	105	45.36	40	178	12
2024	5	SCIENCE	13	15	5.68	120	51.05	47	184	12
2024	5	SCIENCE	14	15	5.68	135	56.73	52	189	12
2024	5	SCIENCE	15	20	7.58	155	64.30	57	194	13
2024	5	SCIENCE	16	16	6.06	171	70.36	62	199	13
2024	5	SCIENCE	17	17	6.44	188	76.80	68	205	13
2024	5	SCIENCE	18	16	6.06	204	82.86	72	211	14
2024	5	SCIENCE	19	13	4.92	217	87.79	78	218	14
2024	5	SCIENCE	20	12	4.55	229	92.33	83	225	15
2024	5	SCIENCE	21	8	3.03	237	95.36	88	234	17
2024	5	SCIENCE	22	7	2.65	244	98.02	92	244	19
2024	5	SCIENCE	23	11	4.17	255	102.18	95	258	22
2024	5	SCIENCE	24	7	2.65	262	104.83	98	280	30
2024	5	SCIENCE	25	2	0.76	264	105.59	99	300	54

Grade 8 Science

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	8	SCIENCE	0	9	3.63	9	3.63	1	104	37
2024	8	SCIENCE	1	1	0.40	10	4.03	3	129	20
2024	8	SCIENCE	2	1	0.40	11	4.44	3	143	15
2024	8	SCIENCE	3	2	0.81	13	5.24	4	153	12
2024	8	SCIENCE	4	1	0.40	14	5.65	4	160	11
2024	8	SCIENCE	5	4	1.61	18	7.26	5	165	10
2024	8	SCIENCE	6	5	2.02	23	9.27	7	170	10
2024	8	SCIENCE	7	13	5.24	36	14.52	11	175	9
2024	8	SCIENCE	8	12	4.84	48	19.35	16	179	9
2024	8	SCIENCE	9	10	4.03	58	23.39	20	183	9
2024	8	SCIENCE	10	18	7.26	76	30.65	26	186	8
2024	8	SCIENCE	11	17	6.85	93	37.50	33	190	8
2024	8	SCIENCE	12	18	7.26	111	44.76	40	193	8
2024	8	SCIENCE	13	14	5.65	125	50.40	47	197	8
2024	8	SCIENCE	14	13	5.24	138	55.65	52	200	8
2024	8	SCIENCE	15	11	4.44	149	60.08	57	204	8
2024	8	SCIENCE	16	14	5.65	163	65.73	62	208	9
2024	8	SCIENCE	17	12	4.84	175	70.56	68	212	9
2024	8	SCIENCE	18	11	4.44	186	75.00	72	216	9
2024	8	SCIENCE	19	14	5.65	200	80.65	78	220	10
2024	8	SCIENCE	20	13	5.24	213	85.89	83	225	10
2024	8	SCIENCE	21	10	4.03	223	89.92	88	231	11
2024	8	SCIENCE	22	9	3.63	232	93.55	92	238	13
2024	8	SCIENCE	23	9	3.63	241	97.18	95	247	15
2024	8	SCIENCE	24	4	1.61	245	98.79	98	262	20
2024	8	SCIENCE	25	3	1.21	248	100.00	99	287	37

High School Science

Admin	Grade	Content Area	Raw Score	Count	Percent	Cum. Count	Cum. Percent	Percentile	Scale Score	CSEM
2024	11	SCIENCE	0	5	2.22	5	2.22	1	101	48
2024	11	SCIENCE	1	3	1.33	8	3.56	1	106	27
2024	11	SCIENCE	2	2	0.89	10	4.44	2	125	19
2024	11	SCIENCE	3	0	0.00	10	4.44	3	137	16
2024	11	SCIENCE	4	2	0.89	12	5.33	3	146	14
2024	11	SCIENCE	5	0	0.00	12	5.33	4	153	13
2024	11	SCIENCE	6	1	0.44	13	5.78	4	159	12
2024	11	SCIENCE	7	4	1.78	17	7.56	5	165	12
2024	11	SCIENCE	8	9	4.00	26	11.56	8	170	11
2024	11	SCIENCE	9	15	6.67	41	18.22	13	175	11
2024	11	SCIENCE	10	13	5.78	54	24.00	20	179	11
2024	11	SCIENCE	11	17	7.56	71	31.56	26	183	10
2024	11	SCIENCE	12	9	4.00	80	35.56	32	187	10
2024	11	SCIENCE	13	5	2.22	85	37.78	36	192	10
2024	11	SCIENCE	14	14	6.22	99	44.00	40	196	10
2024	11	SCIENCE	15	12	5.33	111	49.33	46	200	10
2024	11	SCIENCE	16	10	4.44	121	53.78	51	204	10
2024	11	SCIENCE	17	9	4.00	130	57.78	55	208	10
2024	11	SCIENCE	18	7	3.11	137	60.89	59	212	11
2024	11	SCIENCE	19	8	3.56	145	64.44	62	216	11
2024	11	SCIENCE	20	10	4.44	155	68.89	66	221	11
2024	11	SCIENCE	21	10	4.44	165	73.33	71	226	12
2024	11	SCIENCE	22	10	4.44	175	77.78	75	232	12
2024	11	SCIENCE	23	14	6.22	189	84.00	81	238	13
2024	11	SCIENCE	24	13	5.78	202	89.78	87	245	14
2024	11	SCIENCE	25	6	2.67	208	92.44	91	254	16
2024	11	SCIENCE	26	11	4.89	219	97.33	95	266	19
2024	11	SCIENCE	27	3	1.33	222	98.67	98	285	27
2024	11	SCIENCE	28	3	1.33	225	100.00	99	300	48

Appendix P:

ELA, Mathematics, and Science Demographic Summary Sheets

Grade 3 ELA

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		236	14.86	6.17	211.22	36.40	26.27	59.75	13.98
Gender	Male	154	14.64	5.90	210.51	33.59	25.32	61.04	13.64
	Female	82	15.29	6.68	212.56	41.37	28.05	57.32	14.63
Ethnicity	AM	4	18.00	4.16	226.75	19.99	0.00	75.00	25.00
	AS	8	15.63	4.07	215.63	18.09	12.50	87.50	0.00
	BL	19	12.47	6.06	201.11	36.14	42.11	52.63	5.26
	HI	77	14.22	6.50	205.82	40.12	28.57	58.44	12.99
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	119	15.45	6.17	215.16	35.73	24.37	57.98	17.65
	MU	9	15.67	5.00	215.89	22.82	22.22	77.78	0.00
ELL	No	220	14.75	6.17	210.79	36.35	27.27	59.09	13.64
	Yes	16	16.38	6.20	217.19	37.87	12.50	68.75	18.75
Food Service	No	92	13.90	6.00	205.98	36.96	29.35	63.04	7.61
	Yes	144	15.48	6.22	214.57	35.78	24.31	57.64	18.06

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 4 ELA

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		253	14.22	6.02	206.41	31.07	33.20	61.66	5.14
Gender	Male	144	14.26	5.58	207.24	26.76	34.03	62.50	3.47
	Female	109	14.17	6.59	205.31	36.08	32.11	60.55	7.34
Ethnicity	AM	5	12.00	8.22	189.00	52.30	40.00	60.00	0.00
	AS	14	13.43	3.98	205.36	14.87	35.71	64.29	0.00
	BL	26	14.92	6.16	210.00	31.31	34.62	57.69	7.69
	HI	55	14.11	5.41	206.98	25.02	34.55	63.64	1.82
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	138	14.12	6.36	205.48	34.07	32.61	60.14	7.25
	MU	15	15.80	6.06	213.47	25.86	26.67	73.33	0.00
ELL	No	247	14.26	6.07	206.50	31.37	32.79	61.94	5.26
	Yes	6	12.67	3.98	202.67	14.68	50.00	50.00	0.00
Food Service	No	96	13.68	6.21	202.98	34.33	36.46	60.42	3.13
	Yes	157	14.55	5.90	208.51	28.81	31.21	62.42	6.37

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 5 ELA

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		266	14.69	6.01	202.48	32.35	42.48	51.13	6.39
Gender	Male	161	15.11	5.61	205.42	28.57	41.61	50.31	8.07
	Female	105	14.04	6.55	197.96	37.10	43.81	52.38	3.81
Ethnicity	AM	3	15.67	4.04	207.33	17.24	33.33	66.67	0.00
	AS	10	13.10	4.53	195.10	22.40	50.00	50.00	0.00
	BL	18	13.61	5.77	196.89	28.09	44.44	55.56	0.00
	HI	65	15.15	5.60	205.02	28.62	35.38	58.46	6.15
	PI	1	12.00	.	192.00	.	100.00	0.00	0.00
	WH	159	14.76	6.41	202.61	35.59	43.40	49.06	7.55
	MU	10	14.00	4.81	200.90	22.16	60.00	30.00	10.00
ELL	No	264	14.67	6.02	202.41	32.42	42.42	51.14	6.44
	Yes	2	16.50	6.36	211.50	27.58	50.00	50.00	0.00
Food Service	No	108	14.19	5.63	200.43	30.56	47.22	50.00	2.78
	Yes	158	15.03	6.25	203.88	33.54	39.24	51.90	8.86

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 6 ELA

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		264	14.08	6.02	201.97	33.88	46.21	48.48	5.30
Gender	Male	169	13.89	5.99	201.01	33.91	46.15	49.70	4.14
	Female	95	14.41	6.09	203.68	33.93	46.32	46.32	7.37
Ethnicity	AM	2	16.00	5.66	211.50	23.33	50.00	50.00	0.00
	AS	10	10.90	4.77	185.90	31.99	80.00	20.00	0.00
	BL	26	13.81	6.51	199.54	36.40	46.15	50.00	3.85
	HI	64	14.11	4.68	203.14	22.56	45.31	53.13	1.56
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	150	14.31	6.54	203.03	37.53	44.67	48.00	7.33
	MU	12	13.92	5.74	199.67	35.41	41.67	50.00	8.33
ELL	No	254	14.16	6.04	202.44	33.86	44.88	49.61	5.51
	Yes	10	11.90	5.20	190.20	33.89	80.00	20.00	0.00
Food Service	No	113	12.91	6.17	195.73	36.88	52.21	42.48	5.31
	Yes	151	14.95	5.77	206.64	30.76	41.72	52.98	5.30

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 7 ELA

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		244	14.36	6.64	199.49	37.62	47.13	47.54	5.33
Gender	Male	161	14.19	6.51	198.72	36.50	47.83	46.58	5.59
	Female	83	14.70	6.90	200.98	39.90	45.78	49.40	4.82
Ethnicity	AM	3	10.33	9.50	172.00	59.27	66.67	33.33	0.00
	AS	10	11.40	5.40	184.10	33.58	60.00	40.00	0.00
	BL	23	14.83	6.87	202.70	36.60	43.48	52.17	4.35
	HI	40	11.50	7.01	183.13	43.95	62.50	32.50	5.00
	PI	1	23.00	.	242.00	.	0.00	100.00	0.00
	WH	150	15.19	6.44	203.99	35.74	42.67	51.33	6.00
	MU	17	15.18	5.42	205.29	25.86	47.06	47.06	5.88
ELL	No	239	14.42	6.62	199.86	37.39	46.86	47.70	5.44
	Yes	5	11.60	7.80	181.60	48.82	60.00	40.00	0.00
Food Service	No	111	14.10	6.31	199.15	35.73	54.05	40.54	5.41
	Yes	133	14.59	6.91	199.77	39.26	41.35	53.38	5.26

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 8 ELA

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		252	15.12	6.21	208.61	33.07	46.03	41.67	12.30
Gender	Male	166	15.61	6.17	211.72	31.99	45.78	39.76	14.46
	Female	86	14.15	6.21	202.60	34.46	46.51	45.35	8.14
Ethnicity	AM	6	12.50	3.56	197.67	13.75	66.67	33.33	0.00
	AS	7	16.29	5.22	213.57	22.80	28.57	57.14	14.29
	BL	18	13.56	6.04	203.61	31.36	61.11	33.33	5.56
	HI	56	14.09	5.93	203.43	31.36	51.79	39.29	8.93
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	147	15.88	6.38	212.20	34.43	40.82	44.22	14.97
	MU	18	14.00	6.41	202.11	35.17	55.56	33.33	11.11
ELL	No	248	15.16	6.14	208.92	32.36	45.56	42.34	12.10
	Yes	4	12.25	10.72	189.25	68.91	75.00	0.00	25.00
Food Service	No	112	15.14	6.21	208.88	32.92	47.32	39.29	13.39
	Yes	140	15.09	6.24	208.39	33.30	45.00	43.57	11.43

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

High School ELA

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		225	15.94	6.76	201.00	31.52	56.44	38.67	4.89
Gender	Male	150	15.79	6.67	200.54	31.55	58.67	36.67	4.67
	Female	75	16.25	6.98	201.92	31.64	52.00	42.67	5.33
Ethnicity	AM	3	17.67	5.77	205.67	19.63	33.33	66.67	0.00
	AS	9	11.67	4.74	184.67	16.40	88.89	11.11	0.00
	BL	18	16.83	6.72	202.44	29.15	33.33	66.67	0.00
	HI	45	14.38	6.62	193.91	28.58	68.89	31.11	0.00
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	137	16.47	6.85	203.69	33.59	54.74	37.23	8.03
	MU	13	17.15	6.78	205.38	28.51	46.15	53.85	0.00
ELL	No	224	15.96	6.77	201.05	31.58	56.25	38.84	4.91
	Yes	1	13.00	.	189.00	.	100.00	0.00	0.00
Food Service	No	108	15.46	6.40	198.34	29.71	61.11	36.11	2.78
	Yes	117	16.38	7.08	203.45	33.04	52.14	41.03	6.84

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 3 Mathematics

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		236	13.65	6.13	192.87	31.38	57.20	40.25	2.54
Gender	Male	153	13.77	5.73	194.20	27.52	56.86	40.52	2.61
	Female	83	13.43	6.83	190.42	37.53	57.83	39.76	2.41
Ethnicity	AM	4	15.00	3.37	199.25	13.28	75.00	25.00	0.00
	AS	9	13.33	8.67	191.56	49.34	55.56	33.33	11.11
	BL	19	13.21	5.66	191.47	24.87	68.42	31.58	0.00
	HI	77	13.18	6.78	189.48	35.69	57.14	40.26	2.60
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	118	13.86	5.78	194.49	29.05	55.08	42.37	2.54
	MU	9	15.56	4.25	202.11	17.63	55.56	44.44	0.00
ELL	No	220	13.49	6.07	192.18	30.98	58.18	39.55	2.27
	Yes	16	15.88	6.71	202.38	36.12	43.75	50.00	6.25
Food Service	No	91	12.91	6.06	189.42	32.47	64.84	32.97	2.20
	Yes	145	14.12	6.15	195.04	30.58	52.41	44.83	2.76

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 4 Mathematics

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		247	14.07	6.00	202.87	25.43	46.96	48.58	4.45
Gender	Male	143	13.99	5.97	202.80	24.64	46.85	48.95	4.20
	Female	104	14.18	6.05	202.97	26.60	47.12	48.08	4.81
Ethnicity	AM	4	15.00	6.73	208.25	24.06	50.00	50.00	0.00
	AS	14	12.86	4.11	199.29	14.49	50.00	50.00	0.00
	BL	28	13.25	6.50	198.64	29.49	50.00	46.43	3.57
	HI	54	15.11	5.67	207.76	19.67	50.00	46.30	3.70
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	133	13.65	6.07	200.95	27.36	45.86	49.62	4.51
	MU	14	16.57	6.64	212.86	24.53	35.71	50.00	14.29
ELL	No	241	14.06	6.03	202.83	25.65	46.89	48.55	4.56
	Yes	6	14.33	4.63	204.50	14.90	50.00	50.00	0.00
Food Service	No	92	13.88	6.17	201.77	27.81	50.00	45.65	4.35
	Yes	155	14.18	5.91	203.53	23.98	45.16	50.32	4.52

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 5 Mathematics

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		263	13.90	6.01	200.98	27.36	46.77	49.43	3.80
Gender	Male	160	14.69	5.67	205.03	23.61	44.38	51.25	4.38
	Female	103	12.69	6.35	194.70	31.43	50.49	46.60	2.91
Ethnicity	AM	3	11.00	1.00	193.00	3.00	100.00	0.00	0.00
	AS	9	15.56	4.48	207.89	15.24	22.22	77.78	0.00
	BL	18	13.06	5.96	197.89	26.31	50.00	44.44	5.56
	HI	65	13.89	5.41	201.22	23.13	47.69	50.77	1.54
	PI	1	15.00	.	206.00	.	0.00	100.00	0.00
	WH	157	14.05	6.48	201.19	30.48	45.22	49.68	5.10
	MU	10	12.50	4.62	197.50	15.88	70.00	30.00	0.00
ELL	No	261	13.90	6.03	200.97	27.46	46.74	49.43	3.83
	Yes	2	14.00	2.83	202.50	9.19	50.00	50.00	0.00
Food Service	No	107	13.32	5.83	199.16	26.41	52.34	43.93	3.74
	Yes	156	14.31	6.12	202.24	28.00	42.95	53.21	3.85

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 6 Mathematics

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		258	14.52	6.45	198.09	27.65	48.06	50.39	1.55
Gender	Male	165	14.61	6.69	198.20	28.87	47.27	50.91	1.82
	Female	93	14.34	6.04	197.89	25.47	49.46	49.46	1.08
Ethnicity	AM	2	16.00	5.66	205.00	14.14	50.00	50.00	0.00
	AS	10	14.40	7.68	195.10	37.25	50.00	50.00	0.00
	BL	26	12.81	5.32	193.08	24.09	53.85	46.15	0.00
	HI	61	16.30	5.86	206.16	17.66	37.70	60.66	1.64
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	147	14.05	6.76	195.88	30.29	51.70	46.26	2.04
	MU	12	14.67	5.96	196.25	31.57	41.67	58.33	0.00
ELL	No	249	14.58	6.47	198.40	27.39	47.79	50.60	1.61
	Yes	9	12.78	6.20	189.44	34.70	55.56	44.44	0.00
Food Service	No	112	13.21	6.31	192.81	30.22	58.93	40.18	0.89
	Yes	146	15.51	6.40	202.14	24.85	39.73	58.22	2.05

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 7 Mathematics

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		238	14.17	6.34	193.60	35.34	50.84	45.80	3.36
Gender	Male	157	13.98	6.19	192.79	34.35	50.96	45.86	3.18
	Female	81	14.54	6.65	195.17	37.37	50.62	45.68	3.70
Ethnicity	AM	2	12.50	3.54	189.00	15.56	50.00	50.00	0.00
	AS	10	12.90	6.15	186.40	35.82	50.00	50.00	0.00
	BL	23	13.78	6.17	192.48	33.15	56.52	39.13	4.35
	HI	40	12.08	6.67	181.63	39.64	65.00	35.00	0.00
	PI	1	24.00	.	243.00	.	0.00	100.00	0.00
	WH	146	14.62	6.41	195.97	35.44	48.63	46.58	4.79
	MU	16	16.31	4.03	205.50	17.89	31.25	68.75	0.00
ELL	No	233	14.16	6.28	193.63	34.96	51.07	45.49	3.43
	Yes	5	14.60	9.53	192.40	55.88	40.00	60.00	0.00
FLS	No	108	13.94	6.39	192.81	35.34	55.56	40.74	3.70
	Yes	130	14.36	6.32	194.26	35.47	46.92	50.00	3.08

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 8 Mathematics

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		249	14.68	5.99	201.59	27.67	47.79	48.19	4.02
Gender	Male	165	14.66	6.07	201.68	27.29	46.06	49.70	4.24
	Female	84	14.73	5.88	201.40	28.56	51.19	45.24	3.57
Ethnicity	AM	6	13.17	4.26	196.33	15.38	50.00	50.00	0.00
	AS	7	13.57	3.21	198.00	11.60	42.86	57.14	0.00
	BL	18	13.67	6.15	200.11	30.90	61.11	33.33	5.56
	HI	54	14.41	4.75	200.43	18.75	46.30	51.85	1.85
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	146	15.27	6.42	203.79	30.45	44.52	50.00	5.48
	MU	18	12.67	6.73	191.83	30.44	66.67	33.33	0.00
ELL	No	246	14.68	6.00	201.59	27.75	47.56	48.37	4.07
	Yes	3	14.67	6.66	201.67	24.01	66.67	33.33	0.00
FLS	No	111	14.41	6.05	200.44	28.51	52.25	44.14	3.60
	Yes	138	14.90	5.96	202.51	27.04	44.20	51.45	4.35

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

High School Mathematics

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		226	15.50	6.45	195.96	29.33	56.64	40.71	2.65
Gender	Male	151	15.33	6.57	195.07	30.62	57.62	39.74	2.65
	Female	75	15.83	6.24	197.75	26.65	54.67	42.67	2.67
Ethnicity	AM	3	13.33	3.79	188.33	13.43	100.00	0.00	0.00
	AS	9	12.11	4.73	183.78	17.90	88.89	11.11	0.00
	BL	18	17.61	7.51	203.83	35.58	50.00	44.44	5.56
	HI	46	13.30	6.20	186.43	27.15	65.22	34.78	0.00
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	137	16.24	6.39	199.22	29.67	51.82	44.53	3.65
	MU	13	15.31	6.03	194.62	25.57	53.85	46.15	0.00
ELL	No	225	15.48	6.46	195.91	29.38	56.89	40.44	2.67
	Yes	1	19.00	.	208.00	.	0.00	100.00	0.00
Food Service	No	109	15.20	6.09	194.32	27.40	59.63	38.53	1.83
	Yes	117	15.77	6.79	197.49	31.05	53.85	42.74	3.42

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 5 Science

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		264	14.06	5.61	191.80	37.04	64.77	27.65	7.58
Gender	Male	160	14.50	5.40	195.01	35.76	59.38	31.25	9.38
	Female	104	13.38	5.88	186.86	38.58	73.08	22.12	4.81
Ethnicity	AM	3	10.67	6.03	170.00	34.04	66.67	33.33	0.00
	AS	10	11.90	6.10	176.30	35.97	60.00	40.00	0.00
	BL	18	12.50	4.74	180.78	28.03	83.33	16.67	0.00
	HI	65	14.08	5.50	192.14	36.84	67.69	24.62	7.69
	PI	1	13.00	.	184.00	.	100.00	0.00	0.00
	WH	157	14.55	5.76	195.06	38.56	60.51	29.94	9.55
	MU	10	12.40	4.45	181.00	25.15	80.00	20.00	0.00
ELL	No	262	14.06	5.60	191.83	37.04	64.89	27.48	7.63
	Yes	2	13.50	9.19	188.00	52.33	50.00	50.00	0.00
Food Service	No	107	13.32	5.21	186.24	31.70	68.22	28.97	2.80
	Yes	157	14.57	5.83	195.59	39.93	62.42	26.75	10.83

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Grade 8 Science

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		248	13.67	5.90	199.61	30.57	50.40	46.77	2.82
Gender	Male	164	13.68	6.08	199.55	31.13	49.39	48.17	2.44
	Female	84	13.65	5.59	199.73	29.63	52.38	44.05	3.57
Ethnicity	AM	6	9.83	6.05	183.83	24.52	66.67	33.33	0.00
	AS	7	13.29	4.75	198.00	17.94	42.86	57.14	0.00
	BL	18	13.11	6.06	198.11	35.60	66.67	27.78	5.56
	HI	53	12.72	5.41	197.23	24.60	58.49	39.62	1.89
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	146	14.68	5.88	203.65	31.14	41.78	54.79	3.42
	MU	18	10.28	6.11	181.22	35.97	77.78	22.22	0.00
ELL	No	245	13.64	5.91	199.47	30.59	50.61	46.53	2.86
	Yes	3	15.67	6.66	211.00	31.95	33.33	66.67	0.00
Food Service	No	111	13.76	5.68	200.18	30.26	51.35	45.05	3.60
	Yes	137	13.60	6.10	199.15	30.92	49.64	48.18	2.19

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

High School Science

Group	Subgroup	Valid N	Raw Scores		Scale Scores		Percent in Performance Level		
			Mean	SD	Mean	SD	Developing	On Track	Advanced
Overall		225	15.90	6.78	205.33	37.31	44.00	45.78	10.22
Gender	Male	150	15.86	6.86	205.00	38.20	44.67	45.33	10.00
	Female	75	15.99	6.65	206.00	35.70	42.67	46.67	10.67
Ethnicity	AM	3	14.33	5.86	197.33	25.15	66.67	33.33	0.00
	AS	9	13.00	5.24	192.22	24.10	66.67	33.33	0.00
	BL	18	17.67	7.16	211.89	38.42	33.33	61.11	5.56
	HI	45	14.33	6.57	196.89	36.50	51.11	42.22	6.67
	PI	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WH	137	16.38	6.84	208.29	38.40	41.61	44.53	13.87
	MU	13	16.23	6.98	205.23	34.97	38.46	61.54	0.00
ELL	No	224	15.91	6.79	205.38	37.39	43.75	45.98	10.27
	Yes	1	14.00	.	196.00	.	100.00	0.00	0.00
Food Service	No	108	15.86	6.69	205.10	36.64	42.59	48.15	9.26
	Yes	117	15.94	6.89	205.55	38.07	45.30	43.59	11.11

Note. AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

Appendix Q:

ELA, Mathematics, and Science Strand Reliability and SEM

* L =Total Number of Items per Strand, Reliability=Coefficient Alpha, SEM = Standard Error of Measurement in raw score metric based on the true score model

Content	Code	Strand
ELA	E.1	Vocabulary
	E.2	Comprehension
	E.3	Writing
Mathematics	M.1	Number
	M.2	Algebra
	M.3	Geometry
	M.4	Data
	M.5	Ratios and Proportions
Science	S.1	Physical Science
	S.2	Life Science
	S.3	Earth and Space Sciences

Grade 3

Strand	<i>L</i>	Reliability	<i>SEM</i>
E.1	7	0.65	1.11
E.2	14	0.79	1.63
E.3	7	0.52	1.15
M.1 (Form A)*	9	0.58	1.34
M.2 (Form A)*	10	0.66	1.41
M.3 (Form A)*	6	0.66	1.03
M.4 (Form A)*	3	0.36	0.79
M.1 (Form B)*	9	0.67	1.30
M.2 (Form B)*	10	0.70	1.40
M.3 (Form B)*	6	0.65	1.00
M.4 (Form B)*	3	0.31	0.81

* For the 2024 administration, there were two forms for Mathematics Grade 3 (Form A and Form B) with 28 items on each form (26 common items and 2 unique items).

Grade 4

Strand	<i>L</i>	Reliability	<i>SEM</i>
E.1	7	0.69	1.12
E.2	15	0.75	1.72
E.3	6	0.32	1.14
M.1	10	0.65	1.42
M.2	9	0.58	1.37
M.3	6	0.63	1.08
M.4	5	0.37	1.04

Grade 5

Strand	<i>L</i>	Reliability	<i>SEM</i>
E.1	7	0.70	1.13
E.2	15	0.74	1.72
E.3	6	0.51	1.08
M.1	13	0.58	1.69
M.2	7	0.55	1.21
M.3	7	0.67	1.14
M.4	3	0.35	0.79
S.1	8	0.65	1.23
S.2	6	0.51	1.09
S.3	11	0.73	1.43

Grade 6

Strand	<i>L</i>	Reliability	<i>SEM</i>
E.1	7	0.59	1.18
E.2	15	0.78	1.69
E.3	6	0.41	1.11
M.1	7	0.50	1.22
M.2	7	0.58	1.20
M.3	6	0.58	1.08
M.4	5	0.53	0.97
M.5	5	0.64	0.93

Grade 7

Strand	<i>L</i>	Reliability	<i>SEM</i>
E.1	7	0.72	1.11
E.2	14	0.81	1.58
E.3	7	0.53	1.20
M.1	4	0.64	0.83
M.2	10	0.61	1.45
M.3	8	0.71	1.22
M.4	4	0.29	0.94
M.5	4	0.32	0.90

Grade 8

Strand	<i>L</i>	Reliability	<i>SEM</i>
E.1	6	0.71	0.98
E.2	16	0.76	1.80
E.3	6	0.51	1.11
M.1	9	0.60	1.37
M.2	9	0.53	1.38
M.3	10	0.71	1.38
M.4	2	0.18	0.66
M.5	*	*	*
S.1	11	0.76	1.42
S.2	8	0.65	1.22
S.3	6	0.59	1.08

*M.5 (Ratios and Proportions) had no items assessed.

High School

Strand	<i>L</i>	Reliability	<i>SEM</i>
E.1	7	0.66	1.11
E.2	15	0.80	1.68
E.3	6	0.64	1.05
M.1	6	0.51	1.11
M.2	8	0.65	1.24
M.3	10	0.70	1.41
M.4	6	0.42	1.12
M.5	*	*	*
S.1	10	0.74	1.35
S.2	10	0.77	1.32
S.3	8	0.64	1.27

*M.5 (Ratios and Proportions) had no items assessed.