

CMAS Technical Report 2021– Appendices

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APPENDIX A: ELA AND CSLA SCORING RUBRICS

Research Simulation Task (RST) and Literary Analysis Task (LAT)

Construct Measured	Score Point 3	Score Point 2	Score Point 1	Score Point 0
Reading Comprehension and Written Expression	<p>The student response</p> <ul style="list-style-type: none"> demonstrates full comprehension by providing an accurate explanation/description/comparison; addresses the prompt and provides effective development of the topic that is consistently appropriate to task, purpose, and audience; uses clear reasoning supported by relevant, text-based evidence in the development of the topic; is effectively organized with clear and coherent writing; uses language effectively to clarify ideas. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates comprehension by providing a mostly accurate explanation/description/comparison; addresses the prompt and provides some development of the topic that is generally appropriate to task, purpose, and audience; uses reasoning and relevant, text-based evidence in the development of the topic; is organized with mostly clear and coherent writing; uses language in a way that is mostly effective to clarify ideas. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates limited comprehension; addresses the prompt and provides minimal development of the topic that is limited in its appropriateness to task, purpose, and audience; uses limited reasoning and text-based evidence; demonstrates limited organization and coherence; uses language to express ideas with limited clarity. 	<p>The student response</p> <ul style="list-style-type: none"> does not demonstrate comprehension; is undeveloped and/or inappropriate to the task, purpose, and audience; includes little to no text-based evidence; lacks organization and coherence; does not use language to express ideas with clarity.
Knowledge of Language and Conventions	<p>The student response to the prompt demonstrates full command of the conventions of standard English at an appropriate level of complexity. There may be a few minor errors in mechanics, grammar, and usage, but meaning is clear.</p>	<p>The student response to the prompt demonstrates some command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that occasionally impede understanding, but the meaning is generally clear.</p>	<p>The student response to the prompt demonstrates limited command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that often impede understanding.</p>	<p>The student response to the prompt does not demonstrate command of the conventions of standard English at the appropriate level of complexity. Frequent and varied errors in mechanics, grammar, and usage impede understanding.</p>

Narrative Task (NT)

Construct Measured	Score Point 3	Score Point 2	Score Point 1	Score Point 0
Written Expression	<p>The student response</p> <ul style="list-style-type: none"> is effectively developed with narrative elements and is consistently appropriate to the task; is effectively organized with clear and coherent writing uses language effectively to clarify ideas. 	<p>The student response</p> <ul style="list-style-type: none"> is developed with some narrative elements and is generally appropriate to the task; is organized with mostly coherent writing; uses language in a way that is mostly effective to clarify ideas. 	<p>The student response</p> <ul style="list-style-type: none"> is minimally developed with few narrative elements and is limited in its appropriateness to the task; demonstrates limited organization and coherence; uses language to express ideas with limited clarity. 	<p>The student response</p> <ul style="list-style-type: none"> is undeveloped and/or inappropriate to the task; lacks organization and coherence; does not use language to express ideas with clarity.
Knowledge of Language and Conventions	<p>The student response to the prompt demonstrates full command of the conventions of standard English at an appropriate level of complexity. There may be a few minor errors in mechanics, grammar, and usage, but meaning is clear.</p>	<p>The student response to the prompt demonstrates some command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that occasionally impede understanding, but the meaning is generally clear.</p>	<p>The student response to the prompt demonstrates limited command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that often impede understanding.</p>	<p>The student response to the prompt does not demonstrate command of the conventions of standard English at the appropriate level of complexity. Frequent and varied errors in mechanics, grammar, and usage impede understanding.</p>

NOTE:

- The reading dimension is not scored for elicited narrative stories.
- Per the CCSS, narrative elements in grades 3-5 may include: establishing a situation; organizing a logical event sequence; describing scenes, objects, or people; developing characters' personalities; and using dialogue as appropriate.
- The elements of organization to be assessed are expressed in the grade-level standards W1-W3.

Grades 4 and 5

CMAS Scoring Rubric for Prose Constructed Response Items



COLORADO
Department of Education

Research Simulation Task (RST) and Literary Analysis Task (LAT)

Construct Measured	Score Point 4	Score Point 3	Score Point 2	Score Point 1	Score Point 0
Reading Comprehension and Written Expression	<p>The student response</p> <ul style="list-style-type: none"> demonstrates full comprehension of ideas stated explicitly and/or inferentially by providing an accurate analysis; addresses the prompt and provides effective development of the topic that is consistently appropriate to task, purpose, and audience; uses clear reasoning supported by relevant, text-based evidence in the development of the topic; is effectively organized with clear and coherent writing; uses language effectively to clarify ideas. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates comprehension of ideas stated explicitly and/or inferentially by providing a mostly accurate analysis; addresses the prompt and provides mostly effective development of the topic that is appropriate to task, purpose, and audience; uses mostly clear reasoning supported by relevant text-based evidence in the development of the topic; is organized with mostly clear and coherent writing uses language that is mostly effective to clarify ideas. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates basic comprehension of ideas stated explicitly and/or inferentially by providing a generally accurate analysis; addresses the prompt and provides some development of the topic that is somewhat appropriate to task, purpose, and audience; uses some reasoning and text-based evidence in the development of the topic; demonstrates some organization with somewhat coherent writing; uses language to express ideas with some clarity. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates limited comprehension of ideas by providing a minimally accurate analysis; addresses the prompt and provides minimal development of the topic that is limited in its appropriateness to task, purpose, and audience; uses limited reasoning and text-based evidence; demonstrates limited organization and coherence; uses language to express ideas with limited clarity. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates no comprehension of ideas by providing an inaccurate or no analysis. is undeveloped and/or inappropriate to the task, purpose, and audience; includes little to no text-based evidence; lacks organization and coherence; does not use language to express ideas with clarity.
Knowledge of Language and Conventions		<p>The student response to the prompt demonstrates full command of the conventions of standard English at an appropriate level of complexity. There may be a few minor errors in mechanics, grammar, and usage, but meaning is clear.</p>	<p>The student response to the prompt demonstrates some command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that occasionally impede understanding, but the meaning is generally clear.</p>	<p>The student response to the prompt demonstrates limited command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that often impede understanding.</p>	<p>The student response to the prompt does not demonstrate command of the conventions of standard English at the appropriate level of complexity. Frequent and varied errors in mechanics, grammar, and usage impede understanding.</p>

Narrative Task (NT)

Construct Measured	Score Point 3	Score Point 2	Score Point 1	Score Point 0
Written Expression	<p>The student response</p> <ul style="list-style-type: none"> is effectively developed with narrative elements and is consistently appropriate to the task; is effectively organized with clear and coherent writing uses language effectively to clarify ideas. 	<p>The student response</p> <ul style="list-style-type: none"> is developed with some narrative elements and is generally appropriate to the task; is organized with mostly coherent writing; uses language in a way that is mostly effective to clarify ideas. 	<p>The student response</p> <ul style="list-style-type: none"> is minimally developed with few narrative elements and is limited in its appropriateness to the task; demonstrates limited organization and coherence; uses language to express ideas with limited clarity. 	<p>The student response</p> <ul style="list-style-type: none"> is undeveloped and/or inappropriate to the task; lacks organization and coherence; does not use language to express ideas with clarity.
Knowledge of Language and Conventions	<p>The student response to the prompt demonstrates full command of the conventions of standard English at an appropriate level of complexity. There may be a few minor errors in mechanics, grammar, and usage, but meaning is clear.</p>	<p>The student response to the prompt demonstrates some command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that occasionally impede understanding, but the meaning is generally clear.</p>	<p>The student response to the prompt demonstrates limited command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that often impede understanding.</p>	<p>The student response to the prompt does not demonstrate command of the conventions of standard English at the appropriate level of complexity. Frequent and varied errors in mechanics, grammar, and usage impede understanding.</p>

NOTE:

- The reading dimension is not scored for elicited narrative stories.
- Per the CCSS, narrative elements in grades 3-5 may include: establishing a situation; organizing a logical event sequence; describing scenes, objects, or people; developing characters' personalities; and using dialogue as appropriate.
- The elements of organization to be assessed are expressed in the grade-level standards W1-W3.

Grades 6 through 8

CMAS Scoring Rubric for Prose Constructed Response Items



COLORADO
Department of Education

Research Simulation Task (RST) and Literary Analysis Task (LAT)

Construct Measured	Score Point 4	Score Point 3	Score Point 2	Score Point 1	Score Point 0
Reading Comprehension and Written Expression	<p>The student response</p> <ul style="list-style-type: none"> demonstrates full comprehension of ideas stated explicitly and inferentially by providing an accurate analysis; addresses the prompt and provides effective and comprehensive development of the claim or topic that is consistently appropriate to task, purpose, and audience; uses clear reasoning supported by relevant text-based evidence in the development of the claim or topic; is effectively organized with clear and coherent writing; establishes and maintains an effective style. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates comprehension of ideas stated explicitly and/or inferentially by providing a mostly accurate analysis; addresses the prompt and provides mostly effective development of claim or topic that is mostly appropriate to task, purpose, and audience; uses mostly clear reasoning supported by relevant text-based evidence in the development of the claim or topic; is organized with mostly clear and coherent writing; establishes and maintains a mostly effective style. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates basic comprehension of ideas stated explicitly and/or inferentially by providing a generally accurate analysis; addresses the prompt and provides some development of claim or topic that is somewhat appropriate to task, purpose, and audience; uses some reasoning and text-based evidence in the development of the claim or topic; demonstrates some organization with somewhat coherent writing; has a style that is somewhat effective. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates limited comprehension of ideas stated explicitly and/or inferentially by providing a minimally accurate analysis; addresses the prompt and provides minimal development of claim or topic that is limited in its appropriateness to task, purpose, and audience; uses limited reasoning and text-based evidence; demonstrates limited organization and coherence; has a style that is minimally effective. 	<p>The student response</p> <ul style="list-style-type: none"> demonstrates no comprehension of ideas by providing an inaccurate or no analysis; is undeveloped and/or inappropriate to task, purpose, and audience; includes little to no text-based evidence; lacks organization and coherence; has an inappropriate style.
Knowledge of Language and Conventions		<p>The student response to the prompt demonstrates full command of the conventions of standard English at an appropriate level of complexity. There may be a few minor errors in mechanics, grammar, and usage, but meaning is clear.</p>	<p>The student response to the prompt demonstrates some command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that occasionally impede understanding, but the meaning is generally clear.</p>	<p>The student response to the prompt demonstrates limited command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that often impede understanding.</p>	<p>The student response to the prompt does not demonstrate command of the conventions of standard English at the appropriate level of complexity. Frequent and varied errors in mechanics, grammar, and usage impede understanding.</p>

Narrative Task (NT)

Construct Measured	Score Point 4	Score Point 3	Score Point 2	Score Point 1	Score Point 0
Written Expression	<p>The student response</p> <ul style="list-style-type: none"> is effectively developed with narrative elements and is consistently appropriate to the task; is effectively organized with clear and coherent writing establishes and maintains an effective style. 	<p>The student response</p> <ul style="list-style-type: none"> is mostly effectively developed with narrative elements and is mostly appropriate to the task; is organized with mostly clear and coherent writing establishes and maintains a mostly effective style. 	<p>The student response</p> <ul style="list-style-type: none"> is developed with some narrative elements and is generally appropriate to the task; demonstrates some organization with somewhat coherent writing; has a style that is somewhat effective. 	<p>The student response</p> <ul style="list-style-type: none"> is minimally developed with few narrative elements and is limited in its appropriateness to the task; demonstrates limited organization and coherence; has a style that has limited effectiveness. 	<p>The student response</p> <ul style="list-style-type: none"> is undeveloped and/or inappropriate to the task; lacks organization and coherence; has an inappropriate style.
Knowledge of Language and Conventions		<p>The student response to the prompt demonstrates full command of the conventions of standard English at an appropriate level of complexity. There may be a few minor errors in mechanics, grammar, and usage, but meaning is clear.</p>	<p>The student response to the prompt demonstrates some command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that occasionally impede understanding, but the meaning is generally clear.</p>	<p>The student response to the prompt demonstrates limited command of the conventions of standard English at an appropriate level of complexity. There may be errors in mechanics, grammar, and usage that often impede understanding.</p>	<p>The student response to the prompt does not demonstrate command of the conventions of standard English at the appropriate level of complexity. Frequent and varied errors in mechanics, grammar, and usage impede understanding.</p>

NOTE:

- The reading dimension is not scored for elicited narrative stories.
- The elements of coherence, clarity, and cohesion to be assessed are expressed in the grade-level standards 1-4 for writing.
- Tone is not assessed in grade 6.
- Per the CCSS, narrative elements in grades 3-5 may include: establishing a situation; organizing a logical event sequence; describing scenes, objects, or people; developing characters' personalities; and using dialogue as appropriate. In grades 6-8, narrative elements may include, in addition to the grades 3-5 elements: establishing a context, situating events in a time and place, developing a point of view, and developing characters' motives. The elements to be assessed are expressed in grade-level standards 3 for writing.

APPENDIX B: SAMPLE SCORE REPORTS



Confidential Student Performance Report

Colorado Measures of Academic Success

Student: **STUDENT NAME**

SASID: **9999999999** Birthdate: **MM/DD/YYYY**

School: **SCHOOL NAME (9999)**

District: **DISTRICT NAME (9999)**

Spring 2021

Mathematics

Grade 6

This CMAS report provides information about your student's mastery of skills and concepts in the academic standards which are the basis for instruction in Colorado schools. Your student's performance on this test is represented by a scale score and a performance level.

- Scale scores are represented by diamonds on the graph. The arrows around your student's diamond show the range of scores your student would likely receive if the assessment were taken multiple times. Scale scores can be compared across years.
- School, district, and state information allows you to compare your student's performance to the performance of others. The percentage of students in each performance level across the state is reported below the graph.
- The performance levels are separated by dotted lines.
- You are encouraged to discuss this report with your student's teacher.

Your Student's Score

746

Approached Expectations

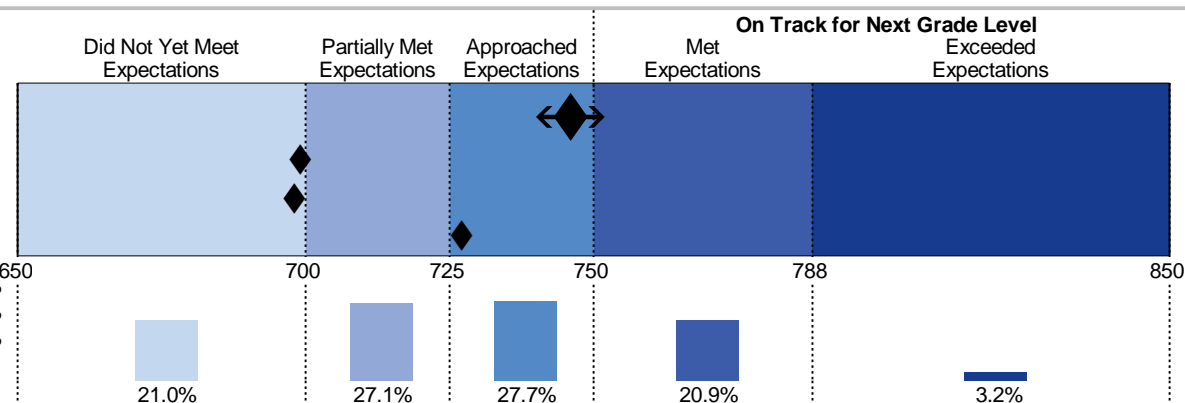
Student

School: 699

District: 698

State: 727

Percent of School Students Tested: 34.6%
Percent of District Students Tested: 42.7%
Percent of CO Students Tested: 68.6%
Percent of CO Tested Students by Performance Level:



Performance Level Descriptor* - Approached Expectations

NAME **Approached Expectations** and may benefit from additional support to meet expectations at the next grade level. Students in this level typically demonstrate the following:

Major, Additional & Supporting Content

- Use reasoning to solve mathematical problems involving ratio and rate.
- Perform all four operations on multi-digit numbers and decimals. Divide fractions with common denominators and apply this skill in solving scaffolded word problems. Plot ordered pairs on a coordinate plane to solve mathematical problems.
- Read numerical and algebraic expressions. Relate tables and graphs to equations. Graph inequalities.
- Solve mathematical problems involving area of polygons by decomposing. Use nets of 3-D figures to find surface area. Find volume of right rectangular prisms with fractional edge lengths.
- Recognize a statistical question. Display numerical data in dot plots and histograms, and summarize in context.

Expressing Mathematical Reasoning

- Communicate reasoning that may include minor calculation errors. Provide a numerically complete response with partial justification, and evaluate the validity of claims made by others.

Modeling & Application

- Draw conclusions by illustrating the relationship between important quantities, modifying a model, or interpreting mathematical results in a simplified context.

Performance level descriptors (PLDs) are organized in a manner that assumes students demonstrating higher levels of command have mastered the concepts and skills within lower levels. To view the full version of the PLDs, visit <https://coassessments.com/parentsandguardians>.

*Adapted from iClassroom in Action's Performance Level Summaries

For more information on the CMAS assessment program, visit
<http://www.cde.state.co.us/assessment/cmas>.

Subclaim Performance

- The top bar in each of the other graphs shows the percent of points your student earned for each of the four mathematics assessment subclaims.
- District Averages are provided for comparison.
- State Averages are provided for comparison.
- The dark vertical line indicates the average percent of points earned by students who just crossed into the Met Expectations performance level on the overall Mathematics test.

	Points Possible		Percent of Points Earned*				
			0%	25%	50%	75%	100%
Mathematics - Refer to page 1 for participation rates.							
Major Content Students solve problems involving ratios, rates, percentages, an understanding of negative numbers, graphing points and simple linear functions, linear expressions, and linear equations.	20	45%					
Additional & Supporting Content Students solve problems involving area, volume, and statistics.	10	30%					
Expressing Mathematical Reasoning Students create and justify logical mathematical solutions and analyze and correct the reasoning of others.	11	45%					
Modeling & Application Students solve real-world problems, represent and solve problems with symbols, reason quantitatively, and strategically use appropriate tools.	9	67%					

*Percent of points earned cannot be compared across years because individual items change from year to year. They also cannot be compared across subclaims because the number of items and the difficulty of items may not be the same.





Confidential Student Performance Report

Colorado Measures of Academic Success

Student: STUDENT NAME

SASID: 999999999 Birthdate: MM/DD/YYYY

School: SCHOOL NAME (9999)

District: DISTRICT NAME (9999)

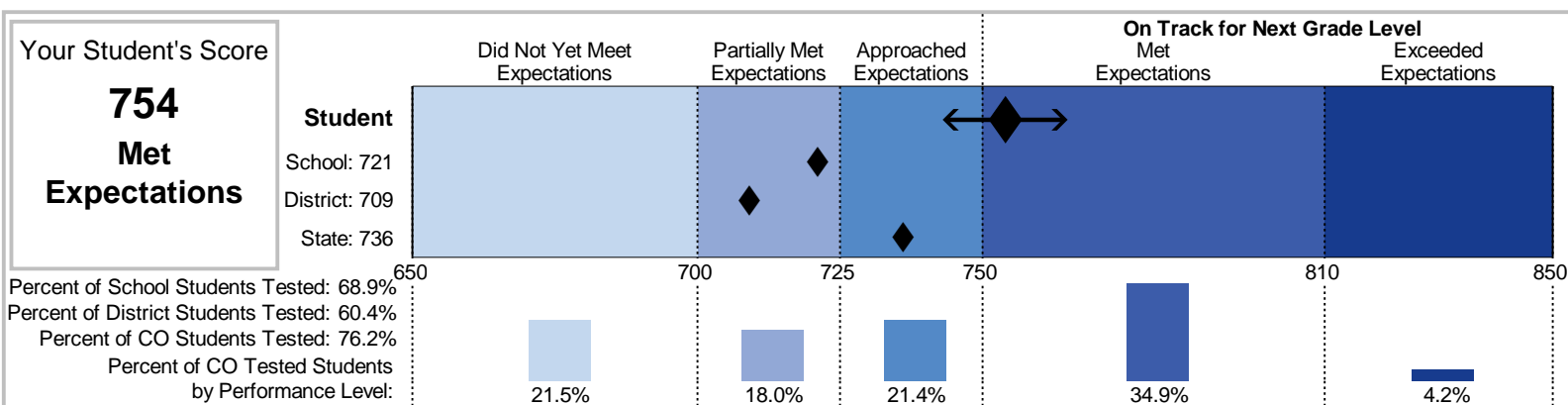
Spring 2021

English Language Arts/Literacy

Grade 3

This CMAS report provides information about your student's mastery of skills and concepts in the academic standards which are the basis for instruction in Colorado schools. Your student's performance on this test is represented by a scale score and a performance level.

- Scale scores are represented by diamonds on the graph. The arrows around your student's diamond show the range of scores your student would likely receive if the assessment were taken multiple times. Scale scores can be compared across years.
- School, district, and state information allows you to compare your student's performance to the performance of others. The percentage of students in each performance level across the state is reported below the graph.
- The performance levels are separated by dotted lines.
- You are encouraged to discuss this report with your student's teacher.



Performance Level Descriptor - Met Expectations

NAME **Met Expectations** and is on track for the next grade level. Students in this level typically demonstrate the following:

3 Reading

- With very complex text: the ability to be generally accurate when asking and/or answering questions, showing general understanding of the text when referring to explicit details and examples in the text.
- With moderately complex text: the ability to be generally accurate when asking and/or answering questions, showing general understanding of the text when referring to explicit details and examples in the text.
- With readily accessible text: the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text.

Writing

Written Expression: students typically address the prompts and provide development of ideas, including when drawing evidence from multiple sources, while in the majority of instances demonstrating purposeful and mostly controlled organization. Students typically:

- Develop the topic and/or narrative elements using reasoning, details, text-based evidence, and/or description.
- Develop topic and/or narrative elements in a manner that is mostly appropriate to the task and purpose.
- Demonstrate purposeful organization that is mostly controlled and may include an introduction and/or conclusion.
- Use linking words and phrases, descriptive words, and/or temporal words to express ideas with clarity.

Knowledge and use of Language Conventions: students typically demonstrate command of the conventions of Standard English consistent with edited writing. There are errors in grammar and usage that may occasionally impede understanding.

To view the full version of the performance level descriptors, visit <https://coassessments.com/parentsandguardians>.

For more information on the CMAS assessment program, visit
<http://www.cde.state.co.us/assessment/cmas>.

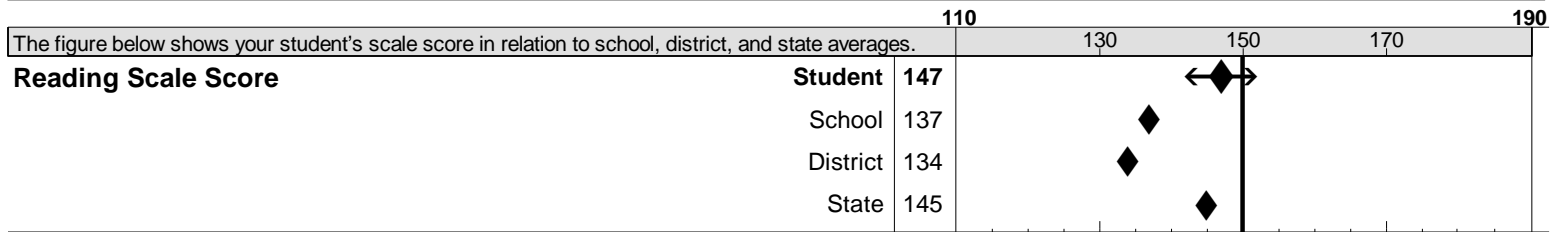
English Language Arts/Literacy

Confidential

Subclaim Performance

- ◆ The top diamond in the figure below shows your student's performance in Reading.
- The top bar in each of the other graphs shows the percent of points your student earned for writing and specific areas of reading and writing.
- District Averages are provided for comparison.
- State Averages are provided for comparison.
- The dark vertical line indicates the average percent of points earned by students who just crossed into the Met Expectations performance level on the overall English Language Arts/Literacy test.

Reading - Refer to page 1 for participation rates.



	Points Possible		Percent of Points Earned*				
			0%	25%	50%	75%	100%
Literary Text Students read and analyze fiction, drama, and poetry.	17	29%					
Informational Text Students read and analyze nonfiction, history, science, and the arts.	14	79%					
Vocabulary Students use context to determine what words and phrases mean.	10	40%					

	Points Possible		Percent of Points Earned*				
			0%	25%	50%	75%	100%
Writing - Refer to page 1 for participation rates.							
Overall Writing Overall is calculated by multiplying Written Expression points by three and adding Language and Conventions points.	24	38%					
Written Expression Students compose well-developed writing using details from what they have read.	6	33%					
Language and Conventions Students demonstrate knowledge of conventions and other important elements of language.	6	50%					

*Percent of points earned cannot be compared across years because individual items change from year to year. They also cannot be compared across subclaims because the number of items and the difficulty of items may not be the same.



Science Performance Level Descriptions

Students demonstrate mastery of science concepts and 21st century skills aligned to the Colorado Academic Standards at various performance levels. The performance level descriptors are organized in a manner that assumes students demonstrating higher levels of command have mastered the concepts and skills within the lower levels. For example, a student who approached expectations has also mastered the concepts and skills included in the partially met expectations performance level.

Students who Exceeded Expectations demonstrated distinguished command of the Colorado Academic Standards and can typically:

- Design an investigation to predict the movement of an object by examining the forces applied to it
- Use models to predict amounts of energy transferred
- Analyze data and models to support claims about genetic reproduction and traits of individuals
- Use observations and models to develop and communicate a weather prediction
- Evaluate scientific theories and investigations that explain how the solar system was formed

Students who Met Expectations demonstrated strong command of the Colorado Academic Standards and can typically:

- Use mathematical expressions and appropriate information from sources to describe the movement of an object
- Analyze different forms of energy and energy transfer using tools
- Construct an experiment to show mass is conserved
- Investigate the characteristics and behaviors of waves using models, technology, and basic rules of waves
- Analyze human impact on local ecosystems
- Use mathematics to predict the physical traits and genetic makeup of offspring
- Relate tides, eclipses, lunar phases, and seasons to the motion and positions of the Sun, Earth, and the Moon, using the basic rules of the solar system

Students who Approached Expectations demonstrated moderate command of the Colorado Academic Standards and can typically:


- Analyze speed and acceleration of moving objects
- Describe different forms of energy and energy transfer
- Use a variety of sources, including popular media and peer-generated explanations, to investigate and describe an environmental issue
- Analyze data and historical research for various weather conditions and compare to historical data for that date and location
- Investigate and ask testable questions about Earth's different climates using various techniques

Students who Partially Met Expectations demonstrated limited command of the Colorado Academic Standards and can typically:

- Distinguish between physical and chemical changes
- Recognize the relationship between pitch and frequency in sound
- Identify human activities that alter the ecosystem
- Recognize that genetic information is passed from one generation to the next
- Compare basic and severe weather conditions and develop an action plan for safety
- Use tools and simulations to explore the solar system

For more information about the standards included in this assessment, please visit the Colorado Department of Education's website at <http://www.cde.state.co.us/coscience/statestandards>.





**Confidential
Student
Performance
Report**

Colorado Measures of Academic Success
Student: **STUDENT NAME**

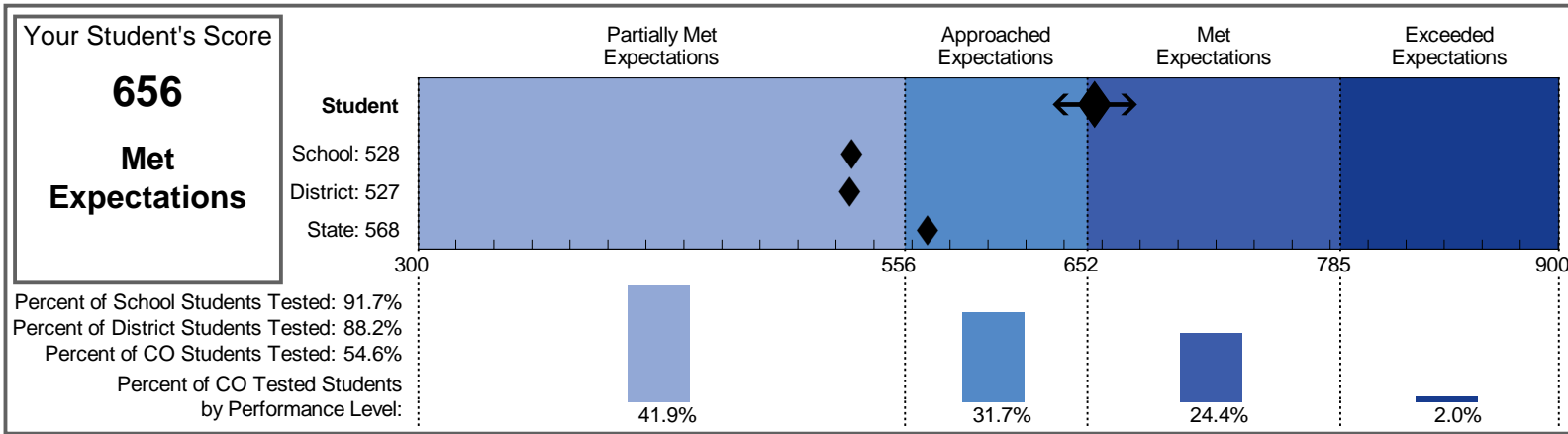
SASID: **9999999999** Birthdate: **MM/DD/YYYY**
School: **SCHOOL NAME (9999)**
District: **DISTRICT NAME (9999)**

Spring 2021

ScienceGrade 8

This CMAS report provides information about your student's mastery of skills and concepts in the academic standards which are the basis for instruction in Colorado schools. Your student's performance on this test is represented by a scale score and a performance level.

- Scale scores are represented by diamonds on the graph. The arrows around your student's diamond show the range of scores your student would likely receive if the assessment were taken multiple times. Scale scores can be compared across years.
- School, district, and state information allows you to compare your student's performance to the performance of others. The percentage of students in each performance level across the state is reported below the graph.
- The performance levels are separated by dotted lines.
- You are encouraged to discuss this report with your student's teacher.



Subscale Performance

- The shaded areas in the table below represent approximately 70% of student scores across the state.
- Scores outside of the shaded area indicate a potential weakness or strength compared to the state.

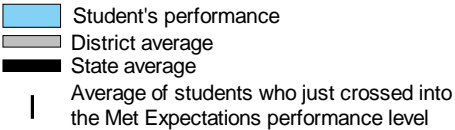
Reporting Category Description	Subscale Score		Potential Relative Weakness		Typical	Potential Relative Strength	
			300	438		697	900
Physical Science Students know and understand common properties, forms, and changes in matter and energy.	635 513 513	Student School District					
Life Science Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.	643 519 517	Student School District					
Earth Systems Science Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space.	682 531 528	Student School District					
Scientific Investigations and the Nature of Science Students understand the processes of scientific investigation and design, conducting and evaluating, as well as communicating about, such investigations. Students understand that the nature of science involves a particular way of building knowledge and making meaning of the natural world.	711 522 520	Student School District					

8

For more information on the CMAS assessment program, visit <http://www.cde.state.co.us/assessment/cmas>.

Performance by Prepared Graduate Competencies (PGCs) and Grade Level Expectations (GLEs)

- Within each standard, PGCs are identified. PGCs represent the concepts and skills that students need to master in order to be college and career ready.
- GLEs are grade-specific expectations that indicate a student is making progress toward the PGCs.
- The figure below shows the percent of points that your student earned for each GLE represented in the grade. If there is more than one GLE for a PGC, the PGC is also provided.

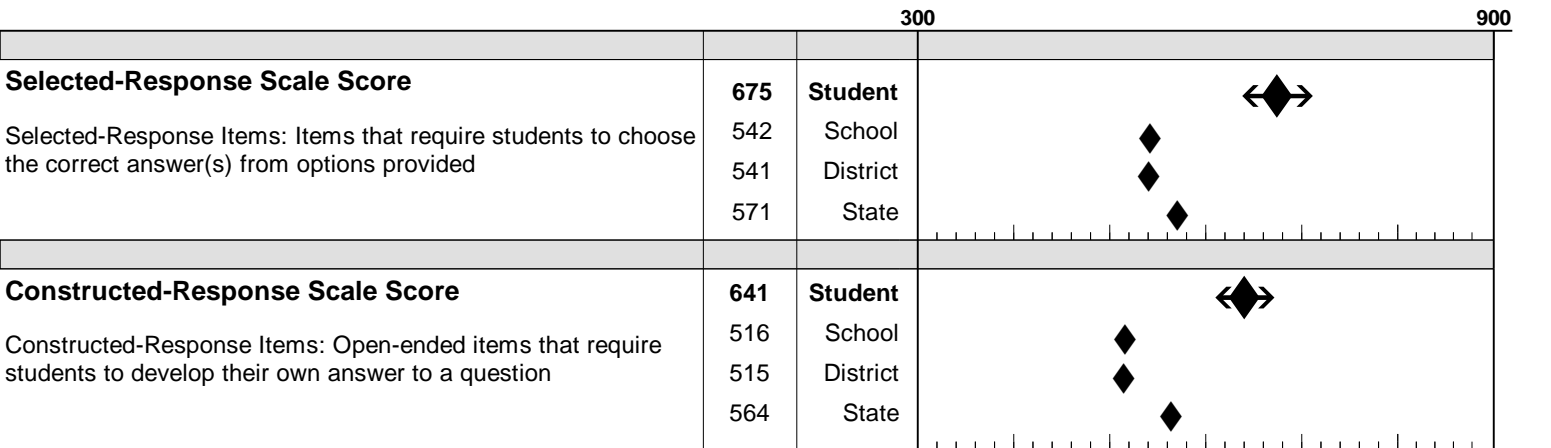


Standard, PGC, and GLE - Refer to Page 1 for participation rates.		Points Possible	Percent of Points Earned*				
			0%	25%	50%	75%	100%
Physical Science							
PGC 1:	Observe, explain, and predict natural phenomena governed by Newton's laws of motion, acknowledging the limitations of their application to very small or very fast objects						
GLE 1:	Identify and calculate the direction and magnitude of forces that act on an object, and explain the results in the object's change of motion	7	29%				
PGC 2:	Apply an understanding that energy exists in various forms, and its transformation and conservation occur in processes that are predictable and measurable	15	60%				
GLE 2:	There are different forms of energy, and those forms of energy can be changed from one form to another – but total energy is conserved	7	57%				
GLE 4:	Recognize that waves such as electromagnetic, sound, seismic, and water have common characteristics and unique properties	8	63%				
PGC 3:	Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactions						
GLE 3:	Distinguish between physical and chemical changes, noting that mass is conserved during any change	6	50%				
Life Science							
PGC 1:	Explain and illustrate with examples how living systems interact with the biotic and abiotic environment						
GLE 1:	Human activities can deliberately or inadvertently alter ecosystems and their resiliency	11	36%				
PGC 2:	Analyze how various organisms grow, develop, and differentiate during their lifetimes based on an interplay between genetics and their environment						
GLE 2:	Organisms reproduce and transmit genetic information (genes) to offspring, which influences individuals' traits in the next generation	13	62%				
Earth Systems Science							
PGC 1:	Evaluate evidence that Earth's geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system	12	50%				
GLE 1:	Weather is a result of complex interactions of Earth's atmosphere, land and water, that are driven by energy from the sun, and can be predicted and described through complex models	6	33%				
GLE 2:	Earth has a variety of climates defined by average temperature, precipitation, humidity, air pressure, and wind that have changed over time in a particular location	6	67%				
PGC 2:	Describe and interpret how Earth's geologic history and place in space are relevant to our understanding of the processes that have shaped our planet	15	73%				
GLE 3:	The solar system is comprised of various objects that orbit the Sun and are classified based on their characteristics	8	88%				
GLE 4:	The relative positions and motions of Earth, Moon, and Sun can be used to explain observable effects such as seasons, eclipses, and Moon phases	7	57%				

*Percent of points earned cannot be compared across years because individual items change from year to year. They also cannot be compared across GLEs and PGCs because the number of items and the difficulty of items may not be the same.

Performance by Item Type

CMAS assessments include selected-response and constructed-response items. The figure below shows your student's scale score for each item type in relation to school, district and state averages.



APPENDIX C: TEST CHARACTERISTIC CURVES, TEST INFORMATION
CURVES, & CONDITIONAL STANDARD ERROR OF MEASUREMENT (CSEM)
CURVES

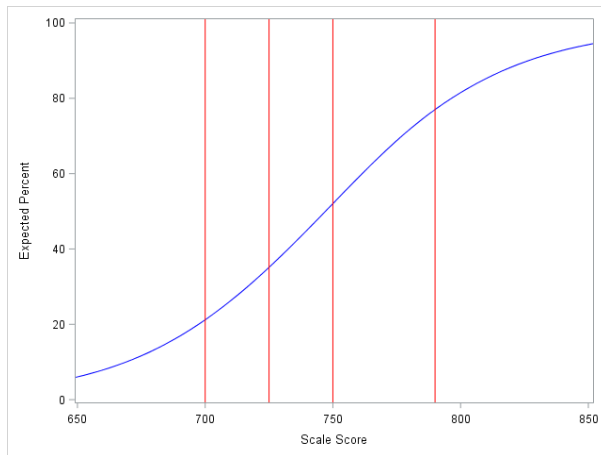


Figure 1. Mathematics Grade 3 TCC

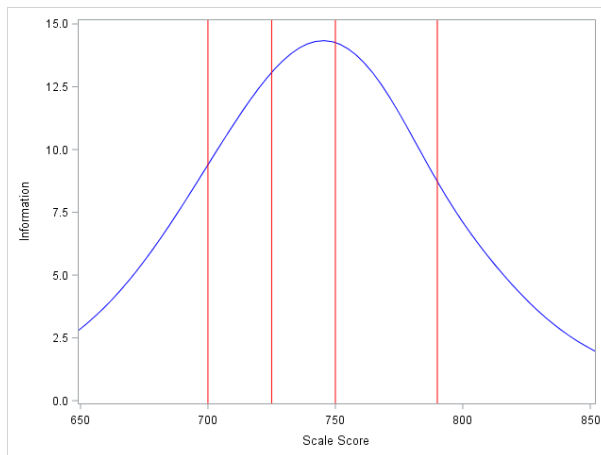


Figure 2. Mathematics Grade 3 TIC

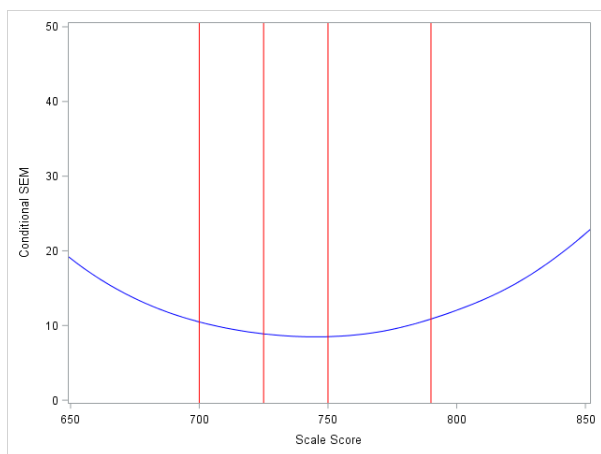


Figure 3. Mathematics Grade 3 CSEM

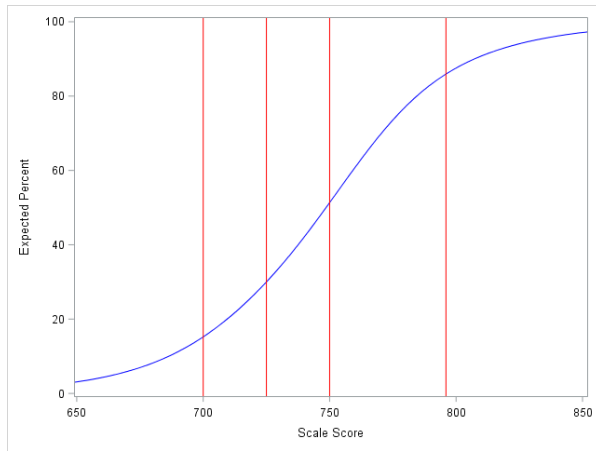


Figure 4. Mathematics Grade 4 TCC

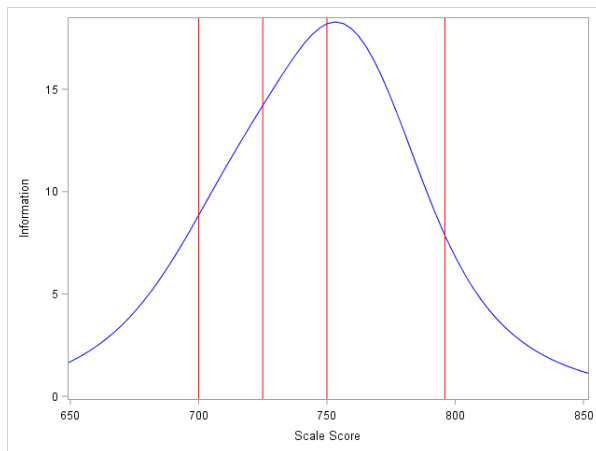


Figure 5. Mathematics Grade 4 TIC

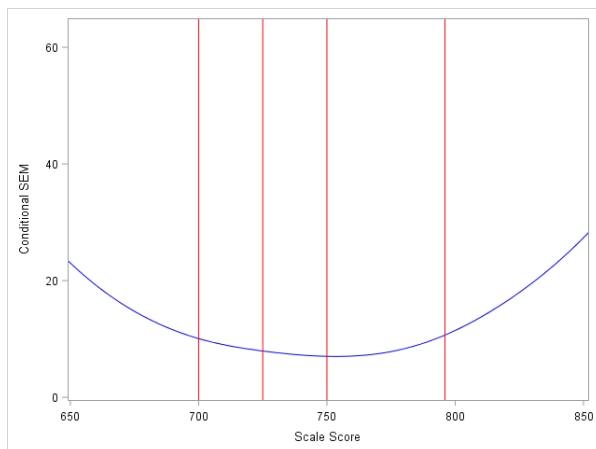


Figure 6. Mathematics Grade 4 CSEM

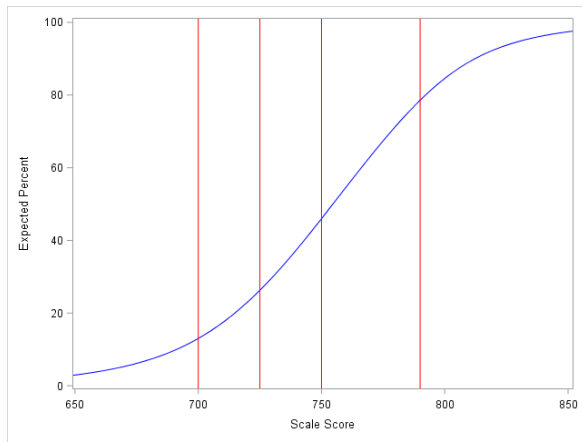


Figure 7. Mathematics Grade 5 TCC

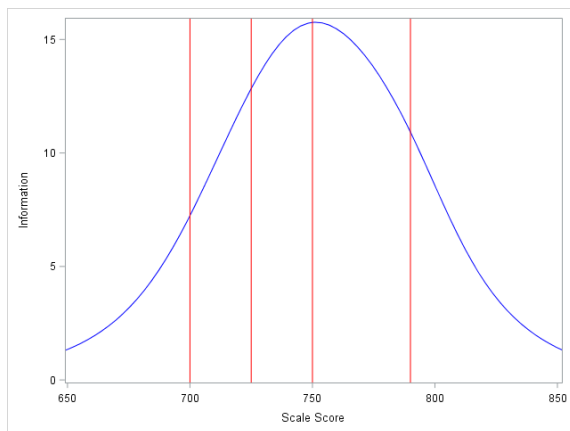


Figure 8. Mathematics Grade 5 TIC

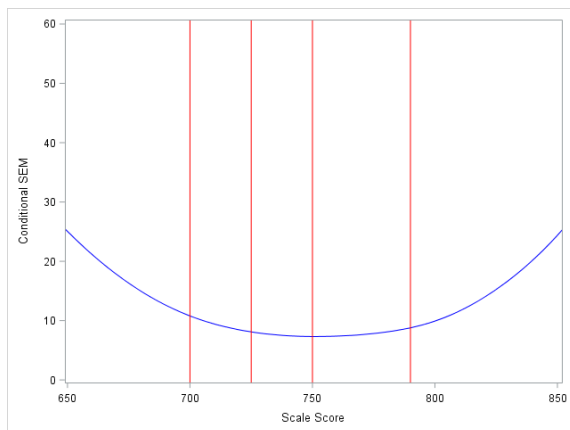


Figure 9. Mathematics Grade 5 CSEM

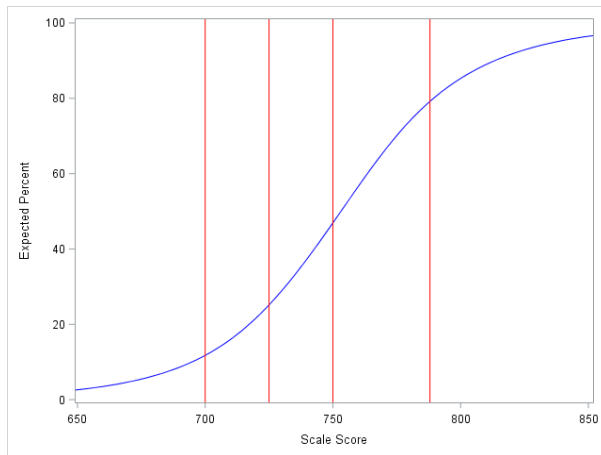


Figure 10. Mathematics Grade 6 TCC

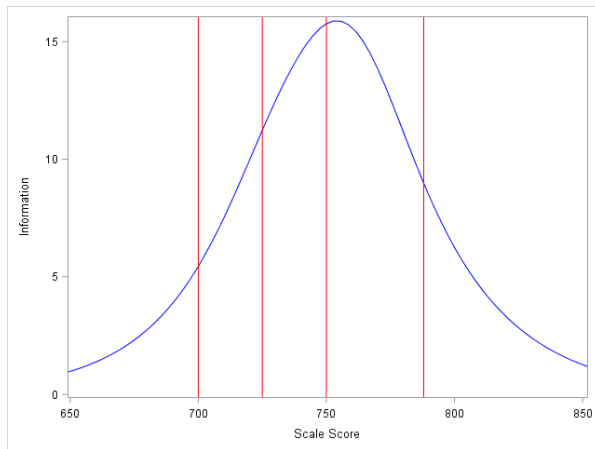


Figure 11. Mathematics Grade 6 TIC

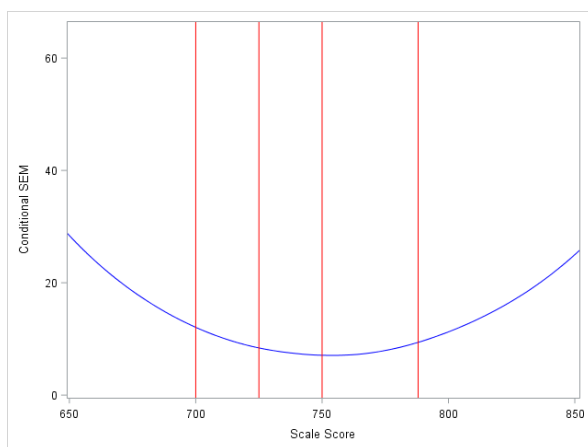


Figure 12. Mathematics Grade 6 CSEM

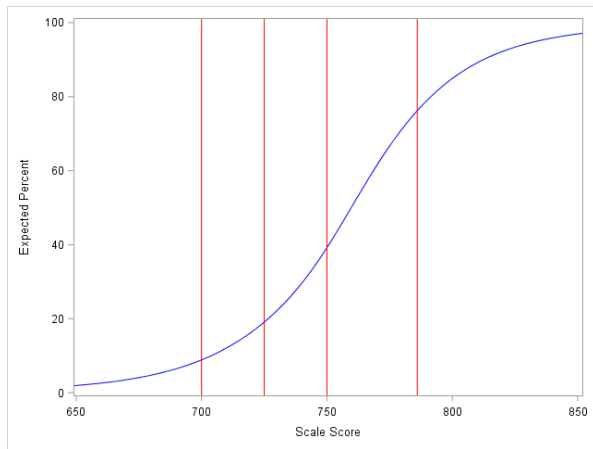


Figure 13. Mathematics Grade 7 TCC

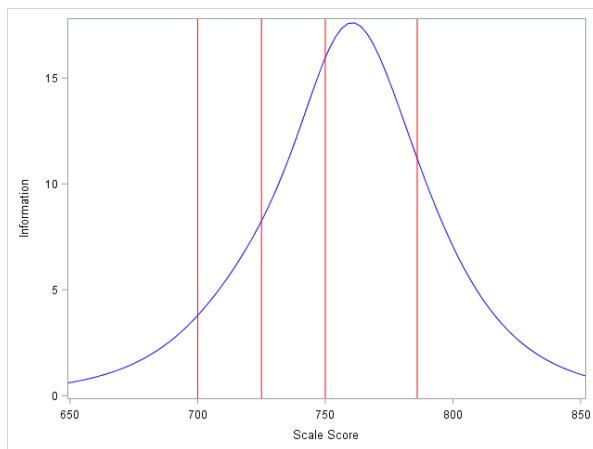


Figure 14. Mathematics Grade 7 TIC

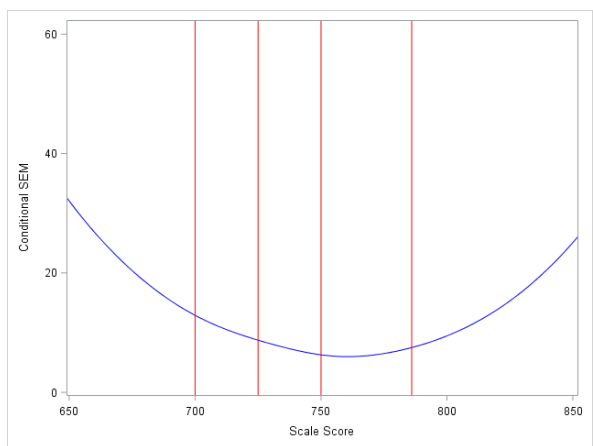


Figure 15. Mathematics Grade 7 CSEM

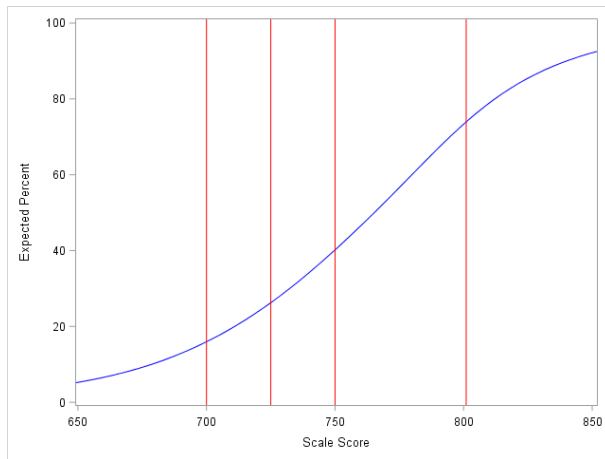


Figure 16. Mathematics Grade 8 TCC

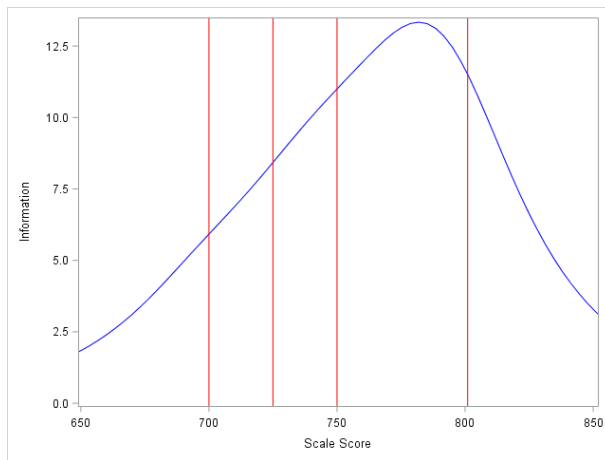


Figure 17. Mathematics Grade 8 TIC

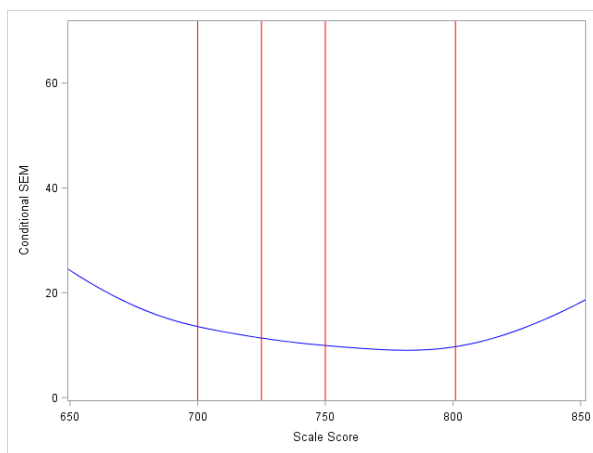


Figure 18. Mathematics Grade 8 CSEM

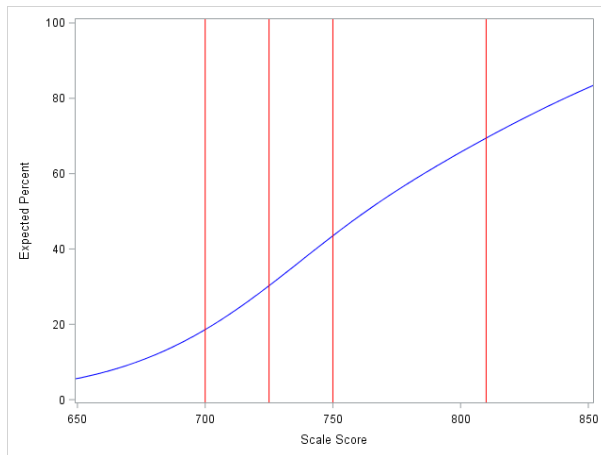


Figure 19. ELA Grade 3 TCC

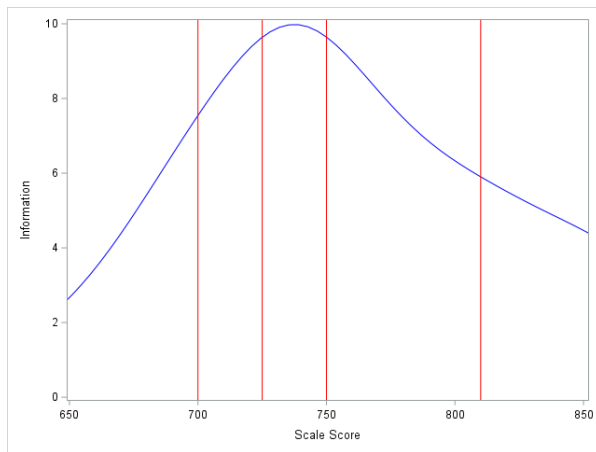


Figure 20. ELA Grade 3 TIC

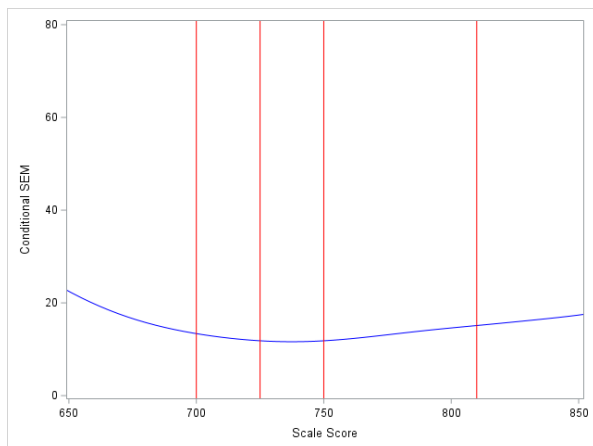


Figure 21. ELA Grade 3 CSEM

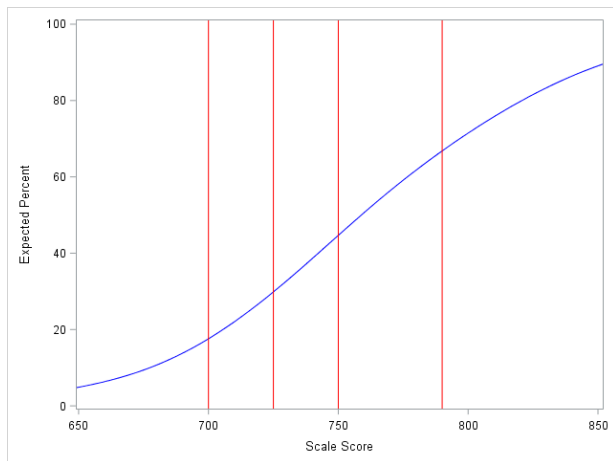


Figure 22. ELA Grade 4 TCC

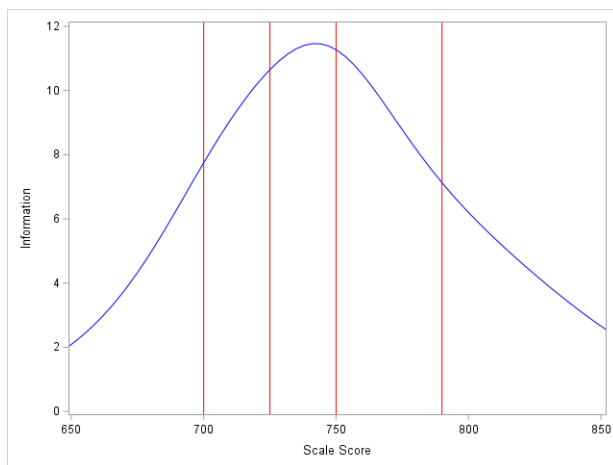


Figure 23. ELA Grade 4 TIC

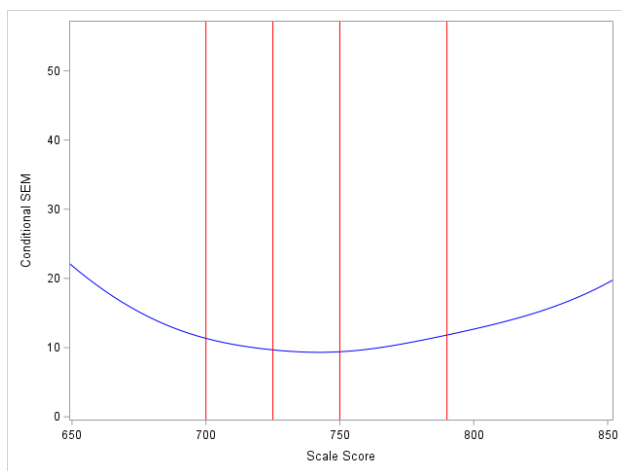


Figure 24. ELA Grade 4 CSEM

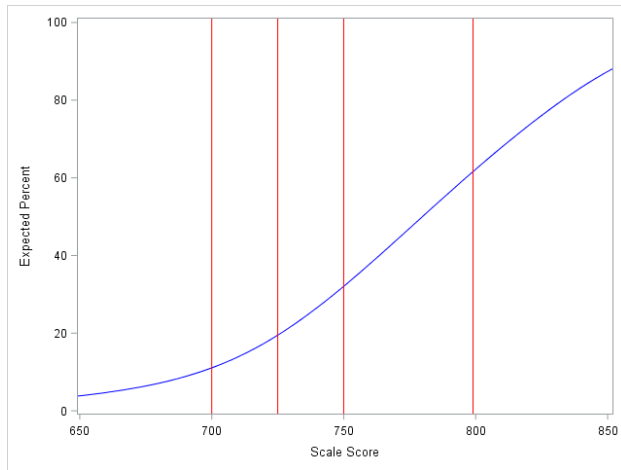


Figure 25. ELA Grade 5 TCC

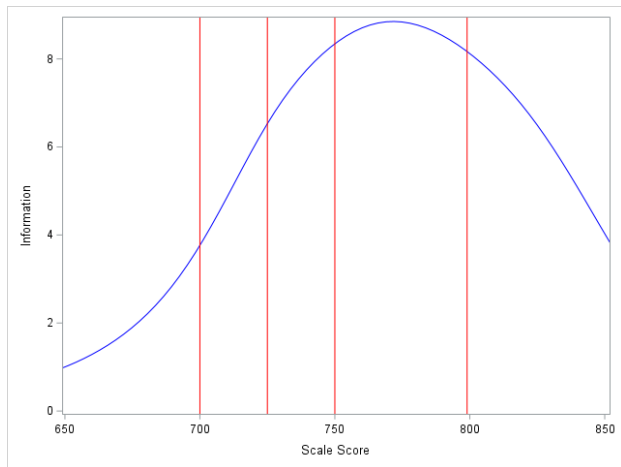


Figure 26. ELA Grade 5 TIC

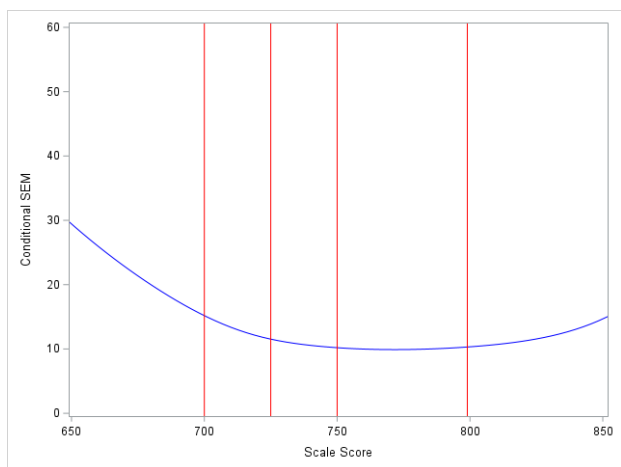


Figure 27. ELA Grade 5 CSEM

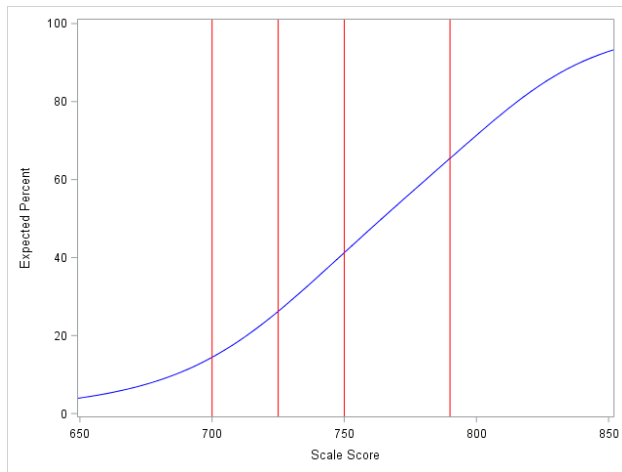


Figure 28. ELA Grade 6 TCC

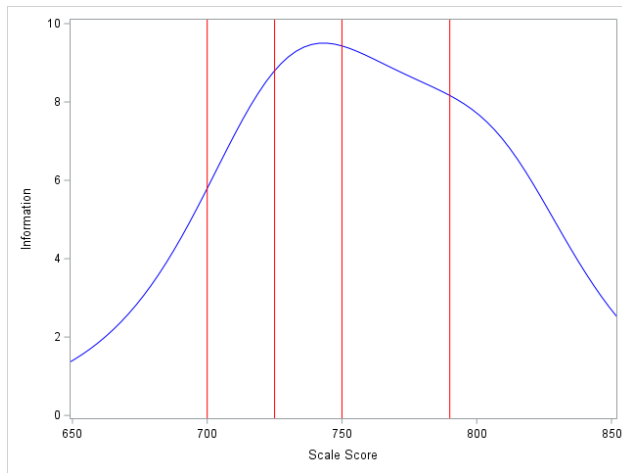


Figure 29. ELA Grade 6 TIC

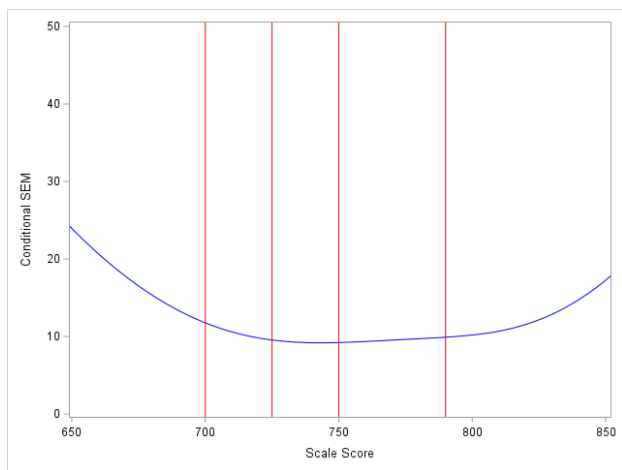


Figure 30. ELA Grade 6 CSEM

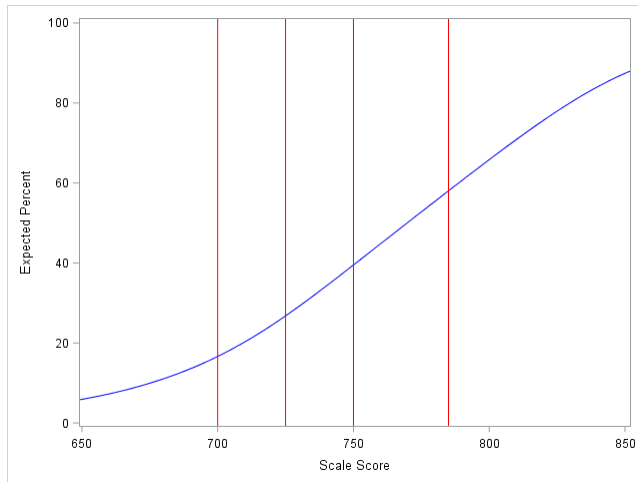


Figure 31. ELA Grade 7 TCC

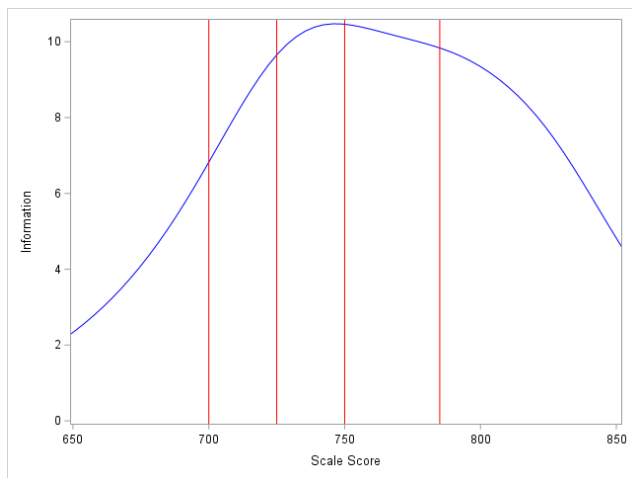


Figure 32. ELA Grade 7 TIC

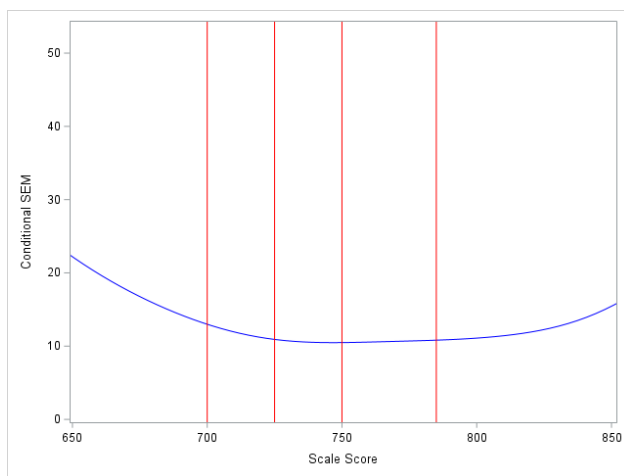


Figure 33. ELA Grade 7 CSEM

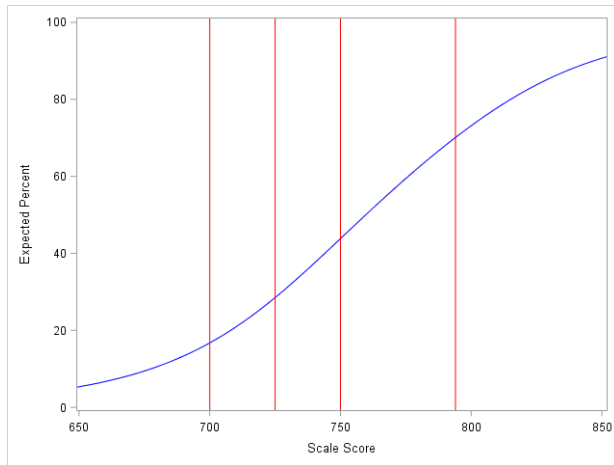


Figure 34. ELA Grade 8 TCC

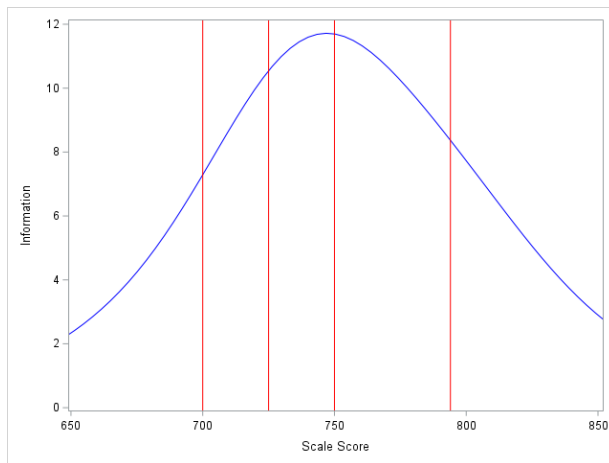


Figure 35. ELA Grade 8 TIC

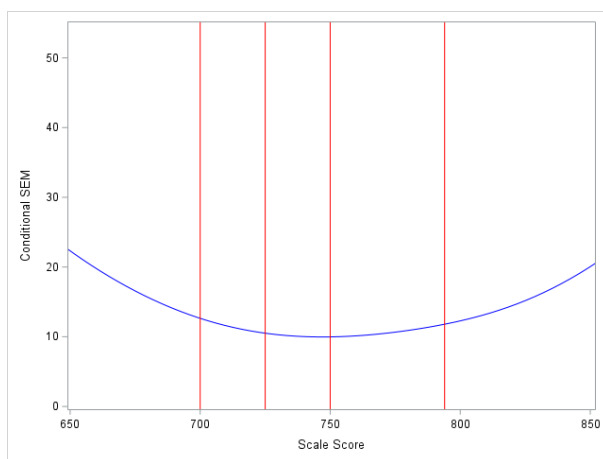


Figure 36. ELA Grade 8 CSEM

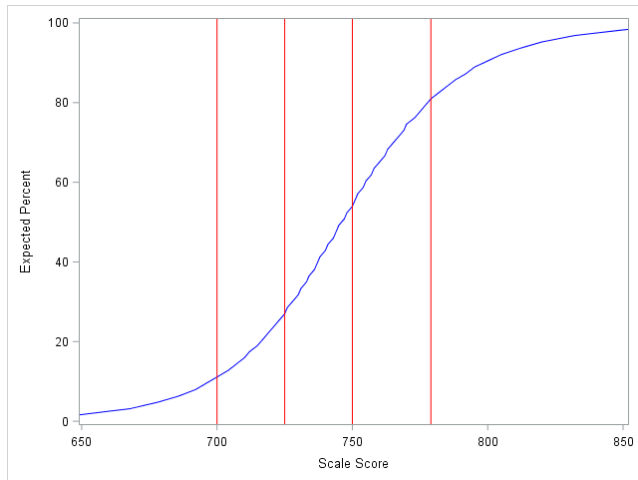


Figure 37. CSLA Grade 3 TCC

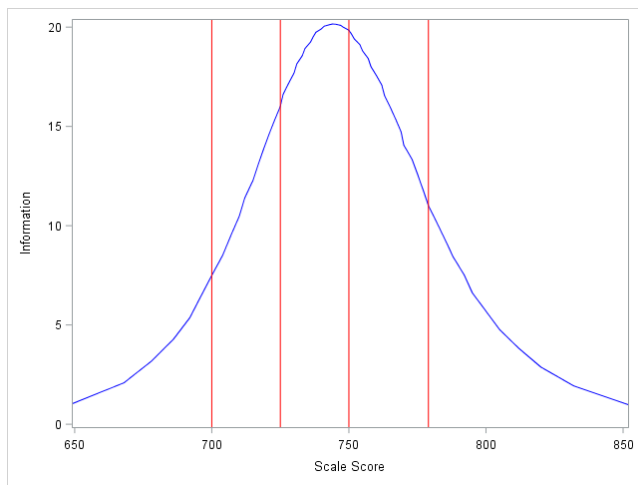


Figure 38. CSLA Grade 3 TIC

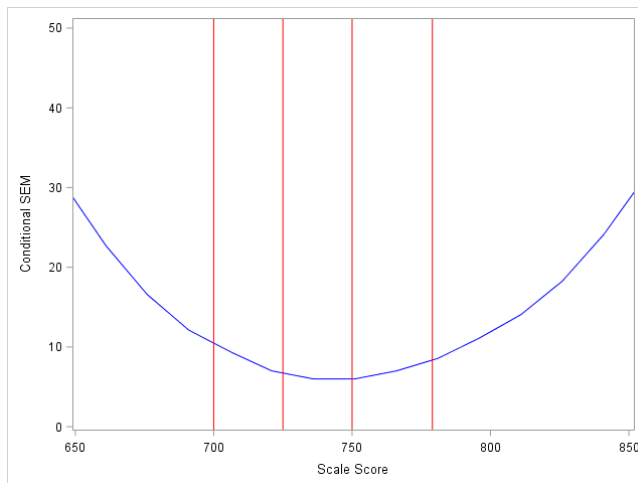


Figure 39. CSLA Grade 3 CSEM

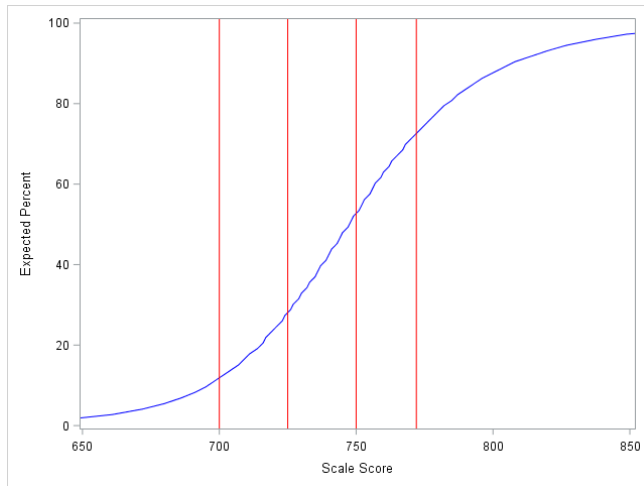


Figure 40. CSLA Grade 4 TCC

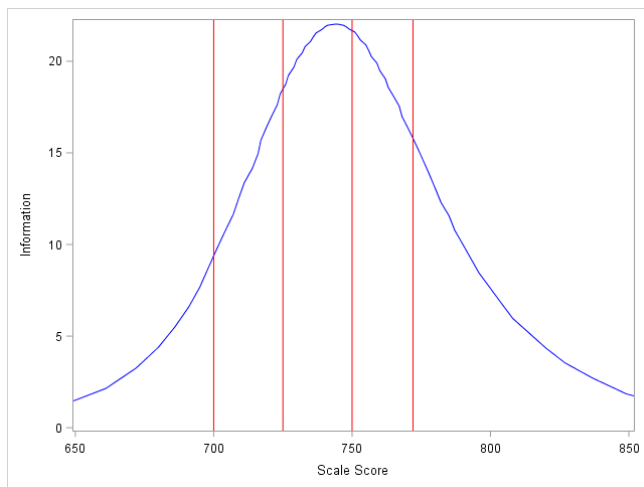


Figure 41. CSLA Grade 4 TIC

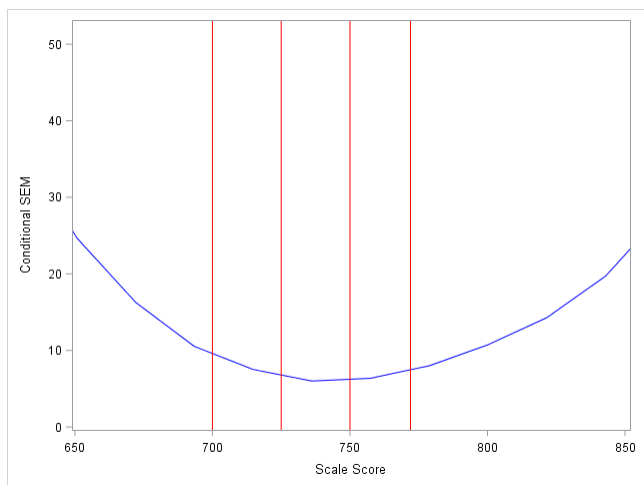


Figure 42. CSLA Grade 4 CSEM

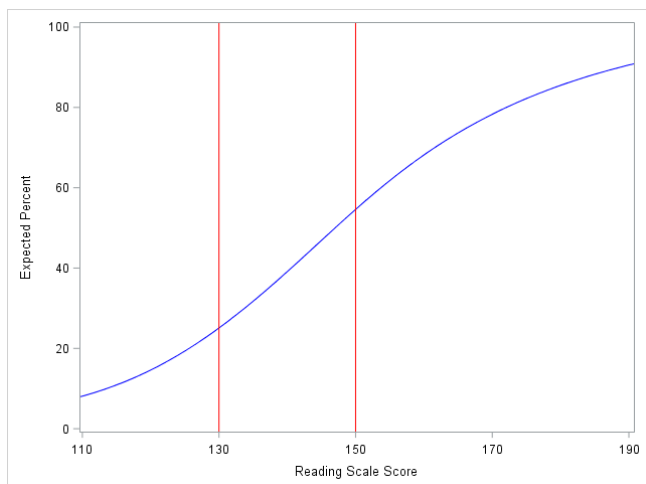


Figure 43. ELA Grade 3 Reading TCC

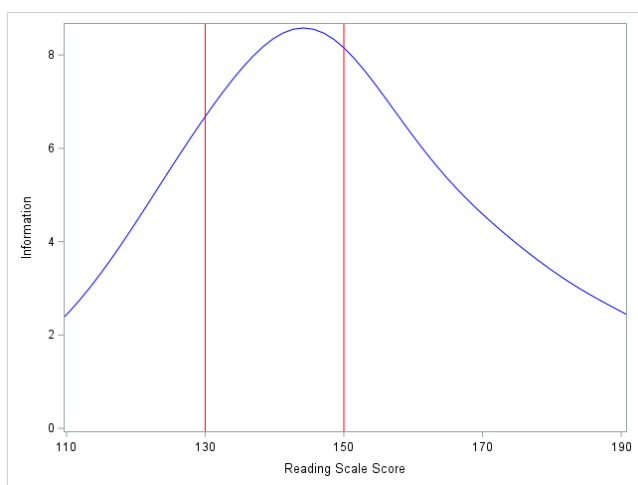


Figure 37. ELA Grade 3 Reading TIC

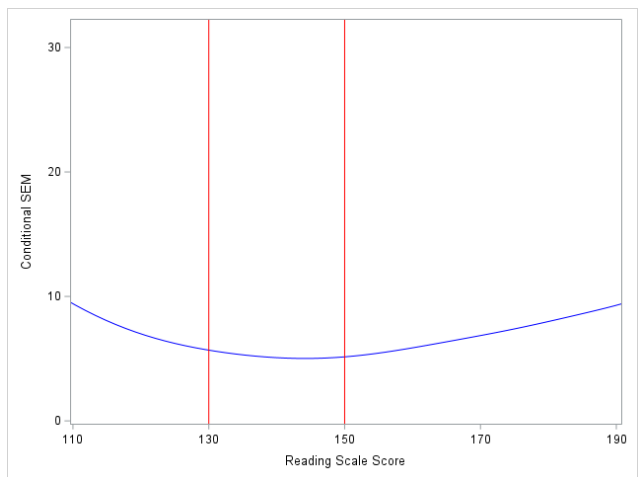


Figure 45. ELA Grade 3 Reading CSEM

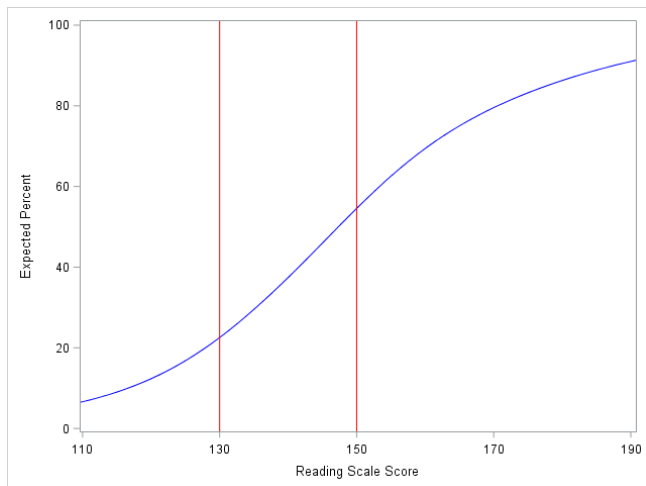


Figure 46. ELA Grade 4 Reading TCC

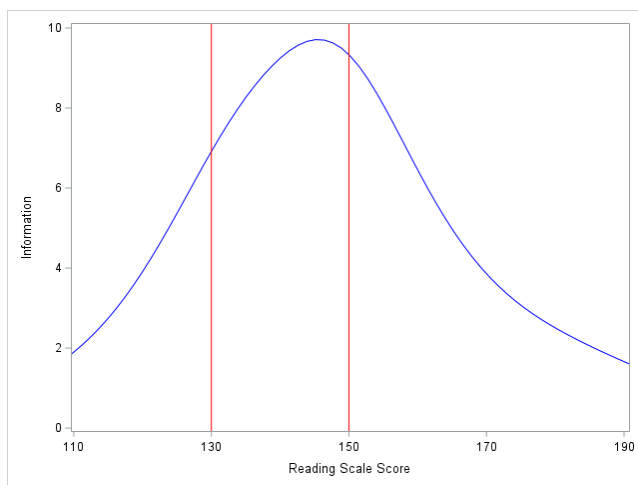


Figure 47. ELA Grade 4 Reading TIC

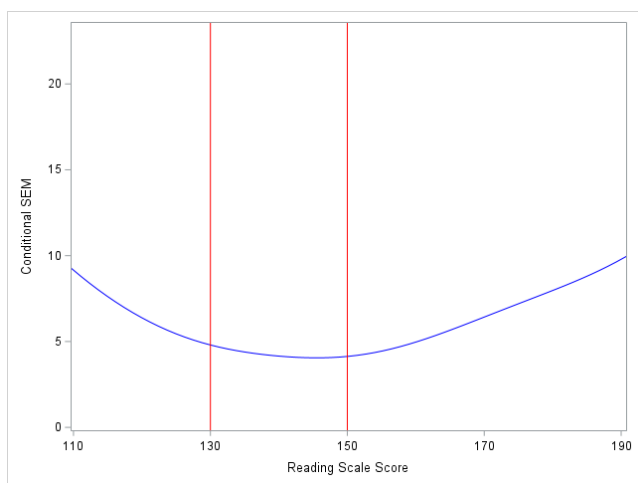


Figure 48. ELA Grade 4 Reading CSEM

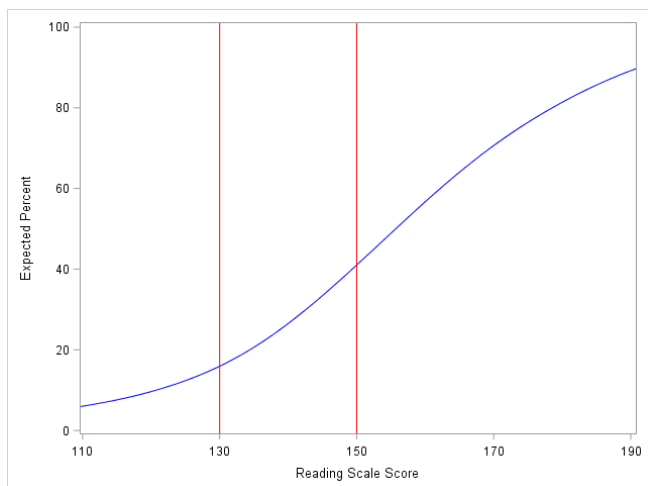


Figure 49. ELA Grade 5 Reading TCC

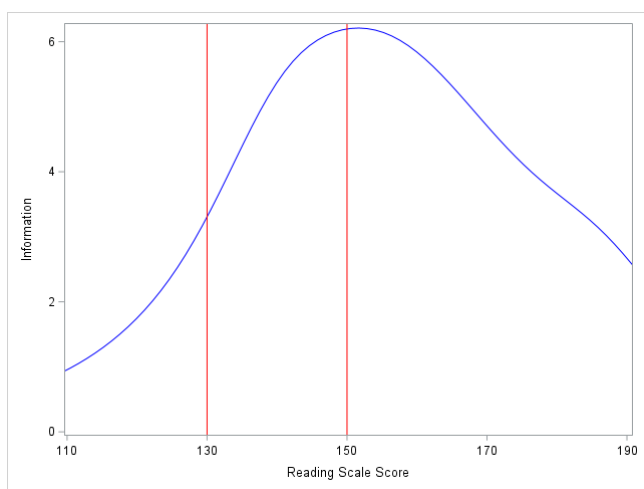


Figure 50. ELA Grade 5 Reading TIC

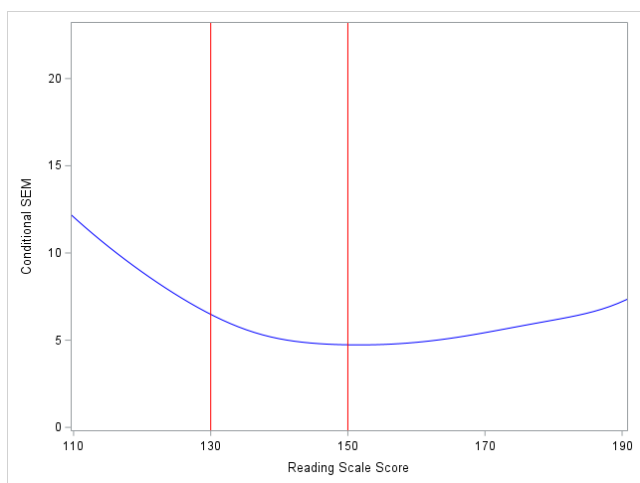


Figure 51. ELA Grade 5 Reading CSEM

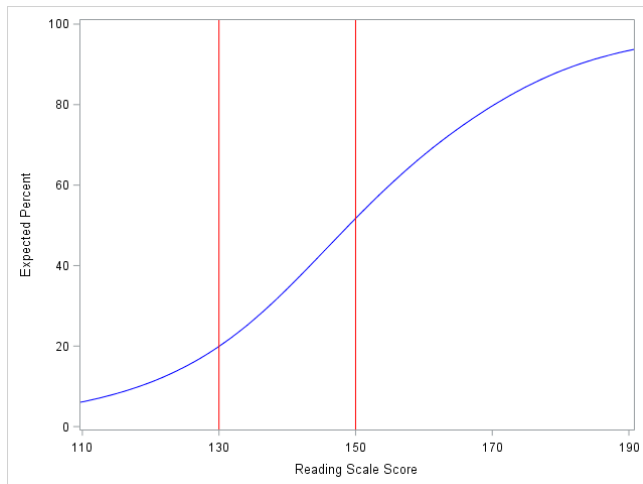


Figure 52. ELA Grade 6 Reading TCC

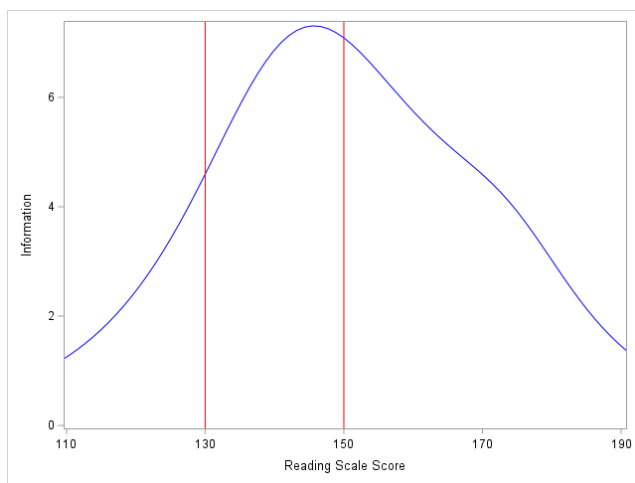


Figure 53. ELA Grade 6 Reading TIC

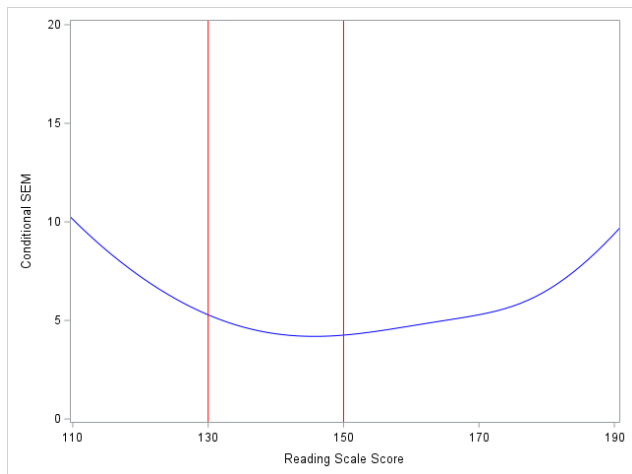


Figure 54. ELA Grade 6 Reading CSEM

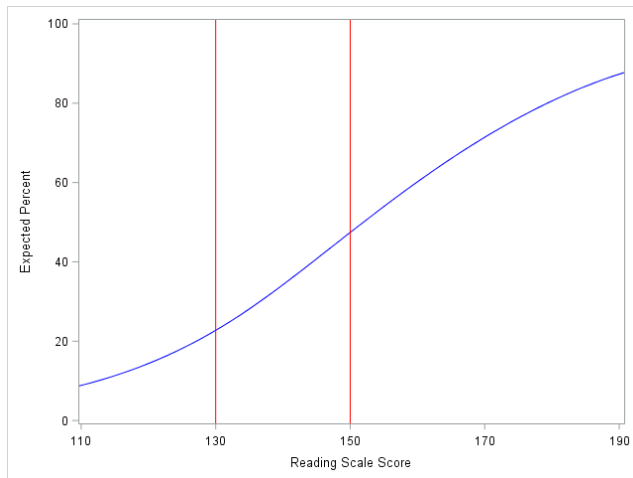


Figure 55. ELA Grade 7 Reading TCC

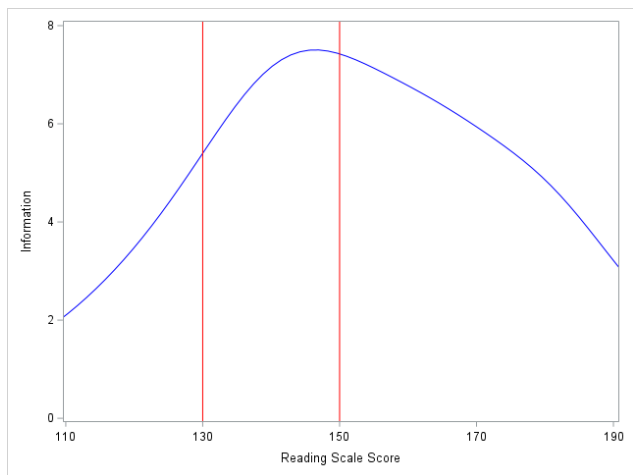


Figure 56. ELA Grade 7 Reading TIC

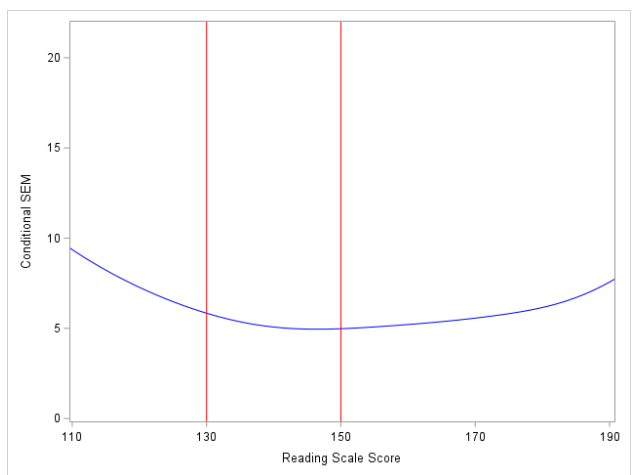


Figure 57. ELA Grade 7 Reading CSEM

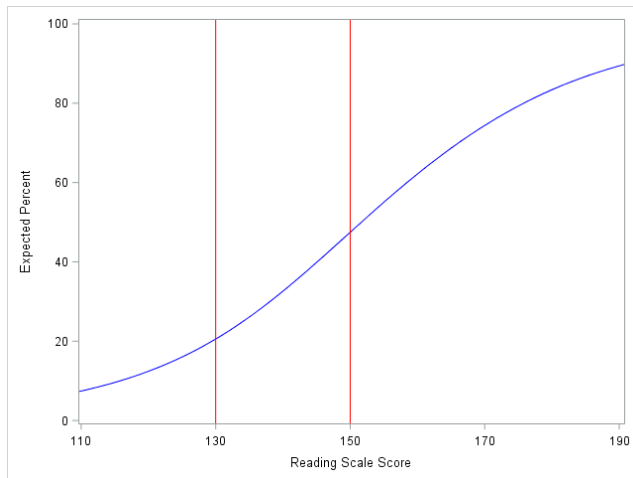


Figure 58. ELA Grade 8 Reading TCC

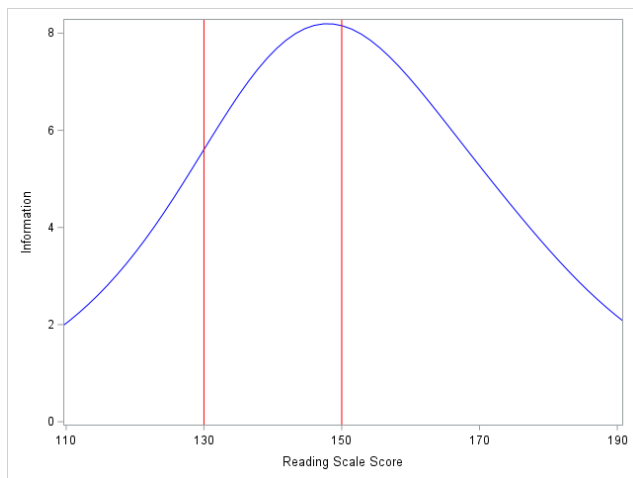


Figure 59. ELA Grade 8 Reading TIC

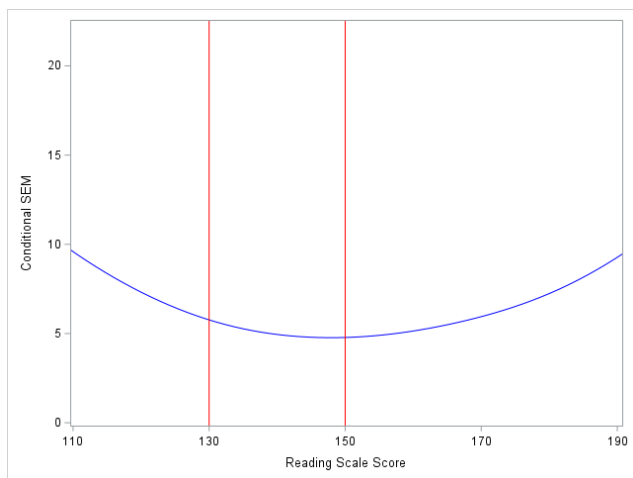


Figure 60. ELA Grade 8 Reading CSEM

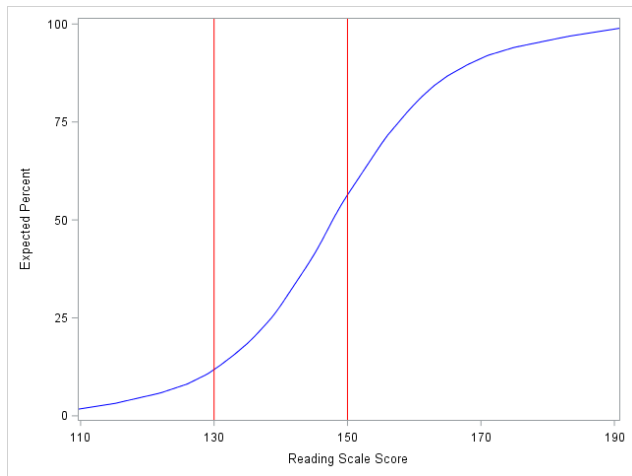


Figure 61. CSLA Grade 3 Reading TCC

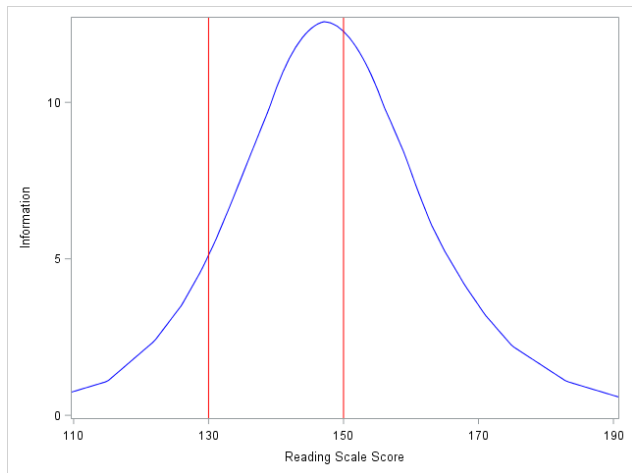


Figure 62. CSLA Grade 3 Reading TIC

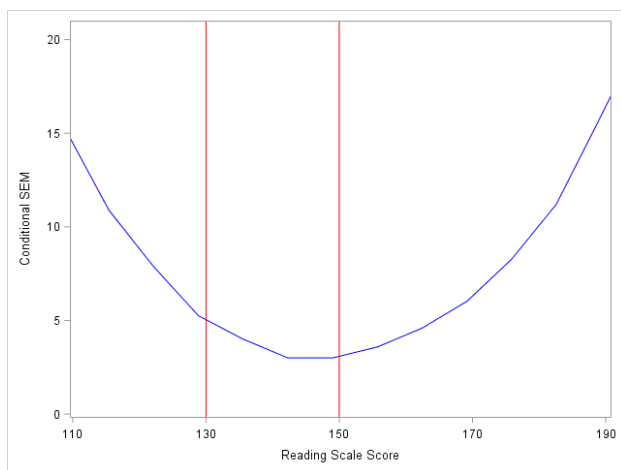


Figure 63. CSLA Grade 3 Reading CSEM

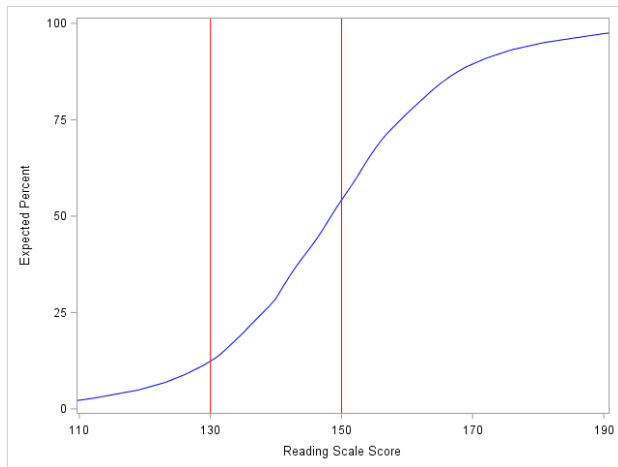


Figure 64. CSLA Grade 4 Reading TCC

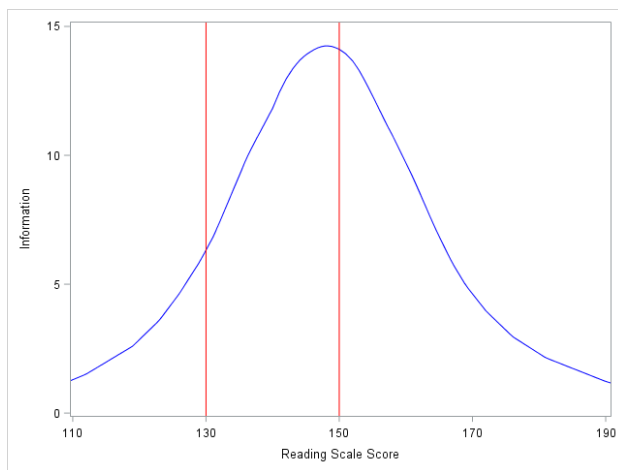


Figure 65. CSLA Grade 4 Reading TIC

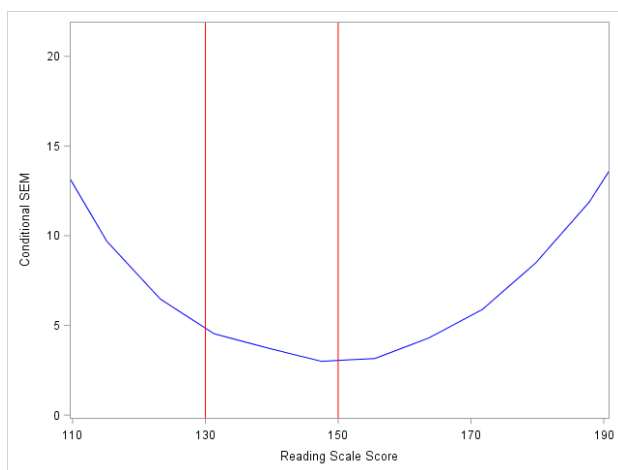


Figure 66. CSLA Grade 4 Reading CSEM

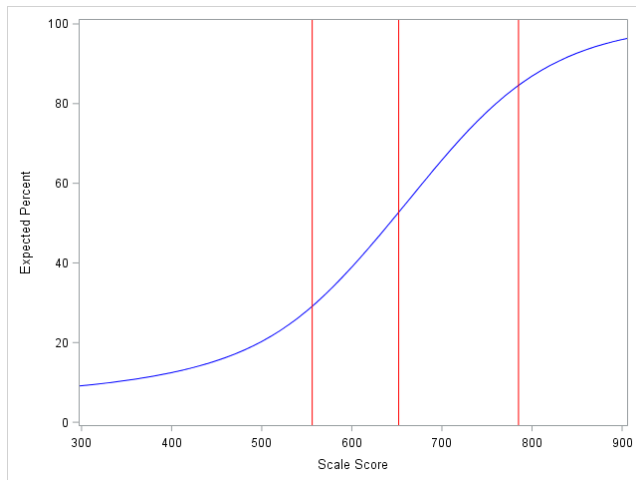


Figure 67. Science Grade 8 TCC

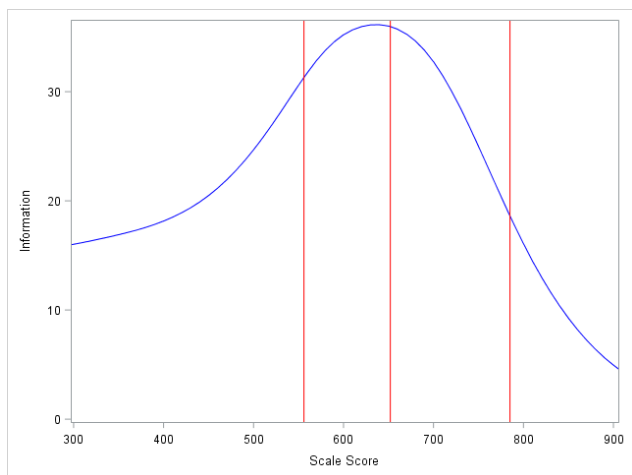


Figure 68. Science Grade 8 TIC

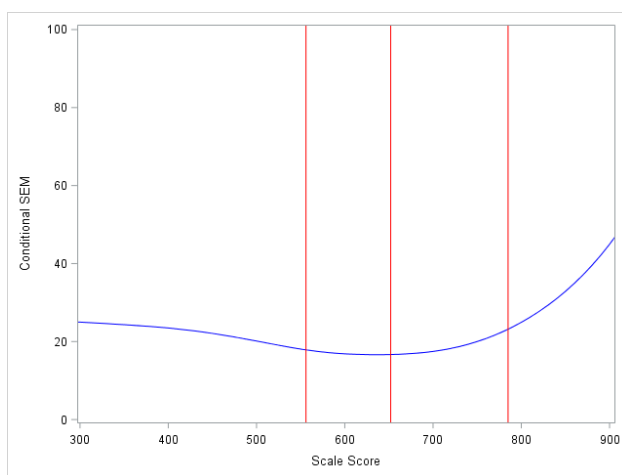


Figure 69. Science Grade 8 CSEM