

# **Technical Report**

## **Alignment Study for North Carolina End-of-Grade and End-of-Course Assessments in Grades 3-8 and High School**

**Karla Egan, Ph.D.  
Anne Davidson, Ed.D.  
Stanley Rabinowitz, Ph.D.**

**May 30, 2023**



## Executive Summary

---

The North Carolina Department of Public Instruction (NCDPI) annually administers the North Carolina End-of-Grade and End-of-Course Assessments (NC EOG and EOC assessments) in mathematics and reading to students in grades 3-8 and NC Math 1, NC Math 3, and English II. The purpose of the assessment program is to measure students' progress toward mastery of the North Carolina *Standard Course of Study* in mathematics and reading (NCDPI, 2019). The NCDPI commissioned an independent alignment study that examined the degree of alignment between the NC EOG and EOC assessments and the North Carolina *Standard Course of Study*. EdMetric LLC (EdMetric) served as the external evaluator.

The purposes of the study were to:

- (a) investigate the alignment of the EOG/EOC assessments to the breadth and depth of the North Carolina *Standard Course of Study* as operationalized by the test blueprint, and
- (b) investigate the alignment of the EOG/EOC assessments to the breadth and depth of the North Carolina *Standard Course of Study*.

**Approach.** The assessment domains were evaluated using a modified Webb (1997, 1999) methodology. Webb's (1997) depth-of-knowledge (DOK) framework was used to measure cognitive complexity. In the alignment study, panelists first evaluated the content match and the strength of that match for each item to the North Carolina content standards. Then they rated the DOK level (1-4) and, if appropriate, assigned any secondary content standard alignments. Results of the study contribute to the validity evidence being gathered by the NCDPI to support or adjust the NC EOG and EOC assessments as a measurement of the state's content standards.

**Method.** In this modified Webb (1997, 1999) approach, EdMetric examined the proportion of items that align to the North Carolina content standards as intended by the assessment blueprint (categorical concurrence). EdMetric also examined the cognitive complexity (DOK), range of knowledge (ROK), and balance of representation (BOR). Alignment criteria were based on Webb (1997, 1999, 2007; see Section 2). EdMetric established an overall degree of alignment based on criteria that best reflect the study questions and purposes based on concepts from Webb.

**Workshop.** Staff from NCDPI assisted with the workshop logistics (e.g., panelist recruitment, meeting location, and access to materials). EdMetric conducted the independent alignment study. The alignment study collected data through a two-day workshop conducted February 1-2, 2023. The in-person workshop was held in Raleigh, North Carolina. EdMetric developed training materials specific to the study goals and conducted all training and panel facilitation.

**Results.** Analyses were conducted to evaluate overall alignment, across categorical concurrence, DOK, ROK, and BOR. Table 1 and Table 2, respectively, summarize the findings of the alignment evaluation by domains in mathematics and reading grades 3-8 and NC Math 1, NC Math 3, and English II.

Table 1 shows that there was mostly moderate to strong alignment for all domains between the mathematics NC EOG and EOC assessments and the North Carolina mathematics content standards as defined by the four areas studied.

Table 2 shows that there was mostly moderate to strong alignment for all domains between the reading NC EOG and EOC assessments and the North Carolina reading content standards as defined by the four areas studied.

**Discussion.** Overall, the alignment evaluation found substantial evidence to support a claim of alignment of the NC EOG and EOC assessments to the North Carolina content standards in all grade levels and across criteria. Even though the mathematics and reading items appear to be well aligned with their related content standards, some suggestions for future improvement are provided.

**Best Practices.** The alignment method was implemented for the study in accordance with best practices and industry standards, using processes and procedures that adhered to the American Education Research Association, American Psychological Association, and National Council on Measurement in Education *Standards for Educational and Psychological Testing* (2014). The study was also conducted with attention to the federal peer review requirements.

**Table 1: Overall Alignment Results, Mathematics NC EOG and EOC Assessments**

Grade/ Course	Domain	Categorical Concurrence	DOK	ROK	BOR	Summary Evaluation
3	Measurement and Data, Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
3	Number and Operations in Base Ten	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
3	Number and Operations – Fractions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
3	Operations and Algebraic Thinking	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
4	Measurement and Data, Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Number and Operations in Base Ten	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
4	Number and Operations – Fractions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Operations and Algebraic Thinking	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
5	Measurement and Data, Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
5	Number and Operations in Base Ten	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
5	Number and Operations – Fractions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned

Grade/ Course	Domain	Categorical Concurrence	DOK	ROK	BOR	Summary Evaluation
5	Operations and Algebraic Thinking	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
6	Expressions and Equations	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
6	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
6	Ratios and Proportional Relationships	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
6	Statistics and Probability	Strongly Aligned	Strongly Aligned	Moderately Aligned	Not Aligned	Moderately Aligned
6	The Number System	Strongly Aligned	Strongly Aligned	Strongly Aligned	Weakly Aligned	Moderately Aligned
7	Expressions and Equations	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
7	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
7	Ratios and Proportional Relationships	Moderately Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
7	Statistics and Probability	Strongly Aligned	Strongly Aligned	Strongly Aligned	Weakly Aligned	Moderately Aligned
7	The Number System	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	Functions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	Statistics and Probability	Strongly Aligned	Moderately Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	The Number System, Expressions and Equations	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
NC Math 1	Functions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
NC Math 1	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned



Grade/ Course	Domain	Categorical Concurrence	DOK	ROK	BOR	Summary Evaluation
NC Math 1	Number and Quantity and Algebra	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
NC Math 1	Statistics and Probability	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
NC Math 3	Functions	Strongly Aligned	Strongly Aligned	Moderately Aligned	Not Aligned	Moderately Aligned
NC Math 3	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
NC Math 3	Number and Quantity and Algebra	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
NC Math 3	Statistics and Probability	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned

**Table 2: Overall Alignment Results, Reading NC EOG and EOC Assessments**

Grade/ Course	Domain	Categorical Concurrence	DOK	ROK	BOR	Summary Evaluation
3	Language	Moderately Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
3	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
3	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
5	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
5	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
5	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned

Grade/ Course	Domain	Categorical Concurrence	DOK	ROK	BOR	Summary Evaluation
6	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
6	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
6	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
7	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
7	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
7	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Weakly Aligned	Moderately Aligned
8	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
English II	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
English II	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
English II	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned

## Table of Contents

<b>Executive Summary .....</b>	<b>1</b>
Table of Contents .....	6
List of Tables .....	7
List of Figures .....	8
List of Appendices .....	8
<b>Section 1. Overview.....</b>	<b>9</b>
Alignment .....	9
Study Purpose.....	9
Brief Literature Review .....	9
Document Purpose .....	11
<b>Section 2. Methodology Overview .....</b>	<b>12</b>
Content Standards .....	12
Selection of Content.....	12
Process and Procedures.....	13
Item Set.....	14
Evaluation Criteria.....	14
Agreement Rates .....	14
Categorical Concurrence .....	14
Depth of Knowledge .....	15
Range of Knowledge .....	16
Balance of Representation .....	16
<b>Section 3. Roles and Responsibilities.....</b>	<b>17</b>
Workshop Panelists .....	17
North Carolina Department of Public Instruction Staff .....	19
Workshop Facilitators.....	19
<b>Section 4. Workshop Implementation .....</b>	<b>21</b>
Moodle Site .....	21
Non-disclosure Forms .....	21
Workshop .....	21
Day 1: Opening Session and Training .....	21
Day 1: Grade-Span Breakout Groups.....	21
Day 2: Grade-Span Breakout Groups.....	22
Calibration and Validation Rounds.....	22
Agreement Rates with Metadata.....	22
Agreement Rates Between Experts and Educators.....	24
<b>Section 5. Evaluations .....</b>	<b>27</b>
Readiness Survey.....	27
Final Evaluation.....	28
<b>Section 6. Results.....</b>	<b>31</b>
Mathematics.....	31

Categorical Concurrence .....	32
Depth of Knowledge (DOK) .....	34
Range of Knowledge (ROK) .....	37
Balance of Representation (BOR) .....	39
Overall Summary for Mathematics .....	41
Reading.....	44
Categorical Concurrence .....	45
Depth of Knowledge (DOK) .....	46
Range of Knowledge (ROK) .....	49
Balance of Representation (BOR) .....	50
Overall Summary for the Reading .....	51
<b>Section 7. Discussion .....</b>	<b>54</b>
Recommendations.....	54
Conclusions .....	54
<b>Section 8. Validity Evidence .....</b>	<b>56</b>
<b>References .....</b>	<b>57</b>

## List of Tables

Table 1: Overall Alignment Results, Mathematics NC EOG and EOC Assessments .....	2
Table 2: Overall Alignment Results, Reading NC EOG and EOC Assessments .....	4
Table 3: Webb (1997) Original Evaluation Rules .....	10
Table 4: Categorical Concurrence Evaluation Rules, Mathematics and Reading NC EOG and EOC Assessments .....	15
Table 5: DOK Evaluation Rules, Mathematics and Reading NC EOG and EOC Assessments .....	15
Table 6: ROK Evaluation Rule, Mathematics and Reading NC EOG and EOC Assessments .....	16
Table 7: BOR Evaluation Rules, Mathematics and Reading NC EOG and EOC Assessments .....	16
Table 8: Panelists' Self-Reported District Type, Mathematics and Reading NC EOG and EOC Assessments .....	17
Table 9: Panelists' Self-Reported Job Title, Mathematics and Reading NC EOG and EOC Assessments .....	17
Table 10: Panelists' Self-Reported Types of Teaching Experiences, Mathematics and Reading NC EOG and EOC Assessments .....	18
Table 11: Panelists' Self-Reported Gender, Mathematics and Reading NC EOG and EOC Assessments .....	18
Table 12: Panelists' Self-Reported Race, Mathematics and Reading NC EOG and EOC Assessments .....	18
Table 13: Panelists' Self-Reported Ethnicity, Mathematics and Reading NC EOG and EOC Assessments .....	19
Table 14: Facilitators for the North Carolina Alignment Workshop, Mathematics and Reading NC EOG and EOC Assessments .....	19
Table 15: Number of Items Flagged for Discussion by Grade, Mathematics and Reading NC EOG and EOC Assessments .....	22
Table 16: Agreement Rates between Final Panelist Ratings and NCDPI Metadata, Mathematics NC EOG and EOC Assessments .....	24
Table 17: Agreement Rates between Final Panelist Ratings and NCDPI Metadata, Reading NC EOG and EOC Assessments .....	24
Table 18: Initial Agreement Rate with Content Experts, Mathematics and Reading NC EOG and EOC Assessments .....	25
Table 19: Final Agreement Rates by Grade Level, Mathematics and Reading NC EOG and EOC Assessments .....	25

Table 20: Results from Readiness Survey, Mathematics and Reading NC EOG and EOC Assessments .....	27
Table 21: Results from the Final Evaluation, Mathematics and Reading NC EOG and EOC Assessments .....	28
Table 22: Qualitative Feedback from Final Evaluation, Mathematics and Reading NC EOG and EOC Assessments .....	29
Table 23: Percentage of Items Aligned to any Standard and to an On-Grade Standard, Mathematics NC EOG and EOC Assessments .....	31
Table 24: Percentage of Items by Alignment Strength, Mathematics NC EOG and EOC Assessments .....	31
Table 25: Categorical Concurrence, Mathematics NC EOG and EOC Assessments .....	32
Table 26: Distribution of DOK, Mathematics NC EOG and EOC Assessments .....	34
Table 27: Expected Distribution of DOK, Mathematics NC EOG and EOC Assessments .....	35
Table 28: Depth of Knowledge, Mathematics NC EOG and EOC Assessments .....	35
Table 29: Range of Knowledge, Mathematics NC EOG and EOC Assessments .....	38
Table 30: Balance of Representation, Mathematics NC EOG and EOC Assessments .....	40
Table 31: Evaluation Summary, Mathematics NC EOG and EOC Assessments .....	42
Table 32: Percentage of Items Aligned to any Standard and to an On-Grade Standard, Reading NC EOG and EOC Assessments .....	44
Table 33: Percentage of Items by Alignment Strength, Reading NC EOG and EOC Assessments .....	45
Table 34: Categorical Concurrence, Reading NC EOG and EOC Assessments .....	45
Table 35: Distribution of DOK, Reading NC EOG and EOC Assessments .....	47
Table 36: Expected Distribution of DOK, Reading NC EOG and EOC Assessments .....	47
Table 37: Depth of Knowledge, Reading NC EOG and EOC Assessments .....	47
Table 38: Range of Knowledge, Reading NC EOG and EOC Assessments .....	49
Table 39: Balance of Representation, Reading NC EOG and EOC Assessments .....	50
Table 40: Evaluation Summary, Reading NC EOG and EOC Assessments .....	52

## List of Figures

Figure 1. Outtake of the North Carolina Standard Course of Study – Sixth Grade Mathematics.....	12
---	----

## List of Appendices

Appendix A: Design Document
Appendix B: Recruitment Letter
Appendix C: Workshop Agenda
Appendix D: Training Matrix and Slides
Appendix E: Readiness/Process Evaluation Surveys
Appendix F: Final Evaluation Survey
Appendix G: DOK Handout
Appendix H: Other Alignment Materials
Appendix I: Detailed Alignment Results
Appendix J: Detailed Form-Level Results

## Section 1. Overview

---

The North Carolina Department of Public Instruction (NCDPI) annually administers the North Carolina End-of-Grade and End-of-Course Assessments (NC EOG and EOC assessments) in mathematics and reading to students in grades 3-8 and NC Math 1, NC Math 3, and English II. The purpose of the assessment program is to measure students' progress toward mastery of the North Carolina mathematics and reading standards. The NCDPI contracted an independent alignment study that examined the degree of alignment between the NC EOG and EOC assessments and the North Carolina *Standard Course of Study* in mathematics and reading. Throughout this report, the North Carolina *Standard Course of Study* will be referred to as the content standards. EdMetric LLC (EdMetric) served as the external, independent evaluator.

### Alignment

---

The term alignment is often used in education with various definitions. In this study, we examine assessment alignment. This refers specifically to the connection between the assessment and the content standards as operationalized through the test blueprint. We expect that students taking well-aligned assessments are measured on the content standards with the breadth and depth expected by the test blueprints.

### Study Purpose

---

The purposes of the study were to:

- (a) investigate the alignment of the EOG/EOC assessments to the breadth and depth of the North Carolina *Standard Course of Study* as operationalized by the test blueprint, and
- (b) investigate the alignment of the EOG/EOC assessments to the breadth and depth of the North Carolina *Standard Course of Study*.

### Brief Literature Review

---

Until the late 1990s, assessment alignment was unevenly examined in large-scale assessment. Norm Webb's work changed the trajectory of assessment alignment, moving it from the realm of informal and uneven studies to a systematic undertaking. Webb's work took on even more importance when in 2002 the Federal Department of Education required independent alignment studies as part of their newly created peer review process, first for NCLB-compliant assessments and more recently for those linked to federal ESSA requirements. For the first time, state departments of education were required to show that their K-12 assessments were well aligned to their state content standards. Independent alignment studies continue to be required under the latest iteration of federal peer review, and Webb's seminal work continues to play an important role in guiding these studies.

**Definition.** The definition of alignment in this context is relatively straightforward and narrow: it is the degree of match between the assessment instrument and the state's adopted content standards. An important question for alignment planners is whether to define the breadth and depth of the content standards in its entirety or as it is operationalized by the test blueprint. The original Webb (1997) methodology examined the alignment of the items to the content standards. Later methodologies either did both (Cizek, Kosh, & Toutkoushian, 2018) or focused on the alignment to standards as operationalized by the test blueprint (Rothman, Slattery, Vranek, & Resnick, 2002). Cizek and colleagues (2018) suggested that studies examine both curriculum coverage (i.e., the extent to which the test form covers the domain implied by the content standards) and construct comprehensiveness (i.e., the extent to which

the distribution of items across standards matches the distribution specified in the test blueprint). Some state content standards are appropriate for classroom instruction while not being appropriate for item types of large-scale testing programs. Therefore, this study examines alignment to the assessable content standards.

**Criteria.** Webb (1997) established four alignment criteria: categorical concurrence, depth of knowledge (DOK), range of knowledge (ROK), and balance of representation (BOR). Categorical concurrence refers to the alignment of the categories or domains of knowledge between the standards or learning objectives and the assessment. DOK refers to the level of cognitive complexity required by the assessment tasks, including the ability to transfer knowledge to different contexts, form generalizations, and prerequisite knowledge. ROK refers to the extent and depth of the content covered in the assessment. BOR refers to the fair and adequate representation of the diversity and range of content and skills that are expected to be learned, ensuring that the assessment items or tasks represent the different facets of the learning objectives or standards being assessed.

**Interpreting Results.** Part of the challenge of early alignment studies was the interpretation of results. To help with this interpretative element, Webb (2007) provided evaluative guidelines for interpreting the results of each criterion as shown in Table 3. Webb (1997) selected six items as an acceptable level of categorical concurrence based on a Subkoviak (1988) procedure for estimating the agreement coefficient of a set of items. Webb said, “Usually, states do not report student results by standards.” He further implied that, if results are reported by standard, then more than six items are necessary for acceptable categorical concurrence. These criteria have been widely adopted as a mechanism for evaluating alignment in K-12 studies. Webb also used a conjunctive approach to alignment so that if any one criterion failed to be acceptable, the test was judged as not aligned.

**Table 3: Webb (1997) Original Evaluation Rules**

Evaluation Judgment	Categorical Concurrence	DOK	ROK	BOR
Acceptable	Six or more items per standard	≥50% items at or above highest DOK	≥50% objectives measured within a standard	≥0.70
Weak	NA	≥40% and <50% items at or above highest DOK	≥40% and <50% objectives measured within a standard	≥0.60 and <0.70
No	Fewer than six items	< 40% at or above highest DOK	< 40% objectives measured within a standard	<0.60

**Independence of Ratings.** The concept of independence in alignment studies has been discussed in both academic literature and in federal peer review implementation and guidance. In both arenas, the alignment evaluation of test items occurs within a study design that addresses independence.

In the academic literature on test alignment, the degree of independence that panelists had while making their alignment ratings is considered. The original Webb implementation approach directed panelists to align items independently and without discussion. However,

Russell and Moncaleano (2020) examined this approach by having experts first individually rate items and then collectively rate those items that the group agreed on at a rate of 70% or less. The authors found that group rating did result in less variability among the ratings of panel members, but that it did not have a meaningful impact on the overall judgment of alignment. This combination of independent work and group discussion can improve panelist experience while maintaining the value of the alignment results.

In the context of federal peer review implementation, independence refers to ensuring that the evaluation of the assessment alignment is not unduly influenced by the state or the assessment vendor interests. Independent study leadership ensures that the alignment evaluation is conducted objectively and without bias. To preserve this independence, the state and/or assessment vendor cannot direct, design, participate, facilitate, or in any way influence the alignment event. Therefore, a qualified external vendor must conduct the alignment study. In this case, EdMetric served in this role.

**Complexity.** Several competing rubrics have arisen to measure methodology, including Webb's DOK, Hess's Cognitive Rigor Matrix, Achieve's Aspects of Rigor, and Bloom's Taxonomy. Bloom's Taxonomy is a widely recognized framework that divides cognitive skills into six hierarchical levels, ranging from simple recall of information to the ability to evaluate and create new ideas. It provides a foundation for curriculum development, assessment design, and instruction. Webb's DOK is widely applied as the framework in alignment studies. It measures the cognitive demand of assessment items, but it focuses on four levels of complexity that are not necessarily hierarchical. The levels range from recall and reproduction of information (Level 1) to complex reasoning and problem-solving (Level 4). Hess's Cognitive Rigor Matrix is similar to Webb's DOK and it has four levels of cognitive complexity that align with Webb's four levels. However, Hess's matrix includes more detailed descriptors for each level, making it easier to identify the cognitive demands of assessment items. Achieve's Aspects of Rigor is a framework that identifies four aspects of rigor that are essential for high-quality science assessments: conceptual understanding, scientific practices, context, and cognitive complexity. This framework provides a comprehensive and multifaceted approach to measuring the rigor and complexity of science assessments. Overall, these frameworks are similar in that they each measure the complexity and cognitive demand of assessment items. For this study, we used Webb's DOK.

## Document Purpose

---

The purpose of this document is to provide technical documentation for the alignment study, which included an in-person workshop on February 1-2, 2023. Section 2 describes the methodology and alignment criteria. Section 3 describes the study participants and facilitators, and Section 4 explains the workshop implementation, including a description of the materials and process. Section 5 presents the workshop evaluations. Section 6 presents the results of the workshop. Section 7 discusses the findings and provides recommendations. Section 8 provides evidence from the study that is relevant to the overall NC EOG and EOC assessments' validity argument.

Appendices are included to provide supporting documentation for the alignment study. Appendix A provides the design document used to set a course for the study. Appendix B presents the letter used to recruit qualified panelists. The workshop agenda is included as Appendix C. Appendix D provides the training overview matrix and slides. Readiness and process evaluation surveys are included in Appendix E. Appendix F provides the final evaluation survey. Appendix G defines the levels of the DOK scale (Webb, 1997, 1999). Supporting materials used by workshop panelists are provided in Appendix H. Appendix I provides the detailed alignment results at the item level, and Appendix J provides alignment evaluation results by test form for each grade and content area.



## Section 2. Methodology Overview

The study examined the alignment of the NC EOG and EOC assessments and the North Carolina content standards to evaluate the “appropriateness of test content, the procedures followed in specifying and generating test content ... with reference to ... the construct the test is intended to measure or the it is intended to represent” [American Educational Research Association (AERA), American Psychological Association (APA), National Council on Measurement in Education (NCME), 2014, p. 26]. This alignment evaluation of the NC EOG and EOC assessments mathematics and reading test forms used the procedures based on Webb (1997, 1999, 2007). In this study we examine: (a) categorical concurrence, (b) DOK consistency, (c) ROK correspondence, and (d) balance of representation (BOR).

### Content Standards

Figure 1 shows a portion of the grade 6 mathematics standards illustrating the way North Carolina labels the disaggregated content standards. For the purposes of this study, the following nomenclature was applied to describe the levels of the standards used as the units of analysis:

- Domain = Level 1, highest level (e.g., “Ratio and Proportional Relationships”)
  - Standard = Level 2, lowest level (e.g., “NC.6.RP.1 Understand the concept of ratio...”)


 <b>PUBLIC SCHOOLS OF NORTH CAROLINA</b> State Board of Education   Department of Public Instruction <b>North Carolina Standard Course of Study</b> <b>Sixth Grade Mathematics</b>	
<b>Standards for Mathematical Practice</b>	
1. Make sense of problems and persevere in solving them.	5. Use appropriate tools strategically.
2. Reason abstractly and quantitatively.	6. Attend to precision.
3. Construct viable arguments and critique the reasoning of others.	7. Look for and make use of structure.
4. Model with mathematics.	8. Look for and express regularity in repeated reasoning.
<b>Ratio and Proportional Relationships</b>	
<b>Understand ratio concepts and use ratio reasoning to solve problems.</b>	
<b>NC.6.RP.1</b>	Understand the concept of a ratio and use ratio language to: <ul style="list-style-type: none"><li>• Describe a ratio as a multiplicative relationship between two quantities.</li><li>• Model a ratio relationship using a variety of representations.</li></ul>
<b>NC.6.RP.2</b>	Understand that ratios can be expressed as equivalent unit ratios by finding and interpreting both unit ratios in context.
<b>NC.6.RP.3</b>	Use ratio reasoning with equivalent whole-number ratios to solve real-world and mathematical problems by: <ul style="list-style-type: none"><li>• Creating and using a table to compare ratios.</li><li>• Finding missing values in the tables.</li><li>• Using a unit ratio.</li><li>• Converting and manipulating measurements using given ratios.</li><li>• Plotting the pairs of values on the coordinate plane.</li></ul>
<b>NC.6.RP.4</b>	Use ratio reasoning to solve real-world and mathematical problems with percents by: <ul style="list-style-type: none"><li>• Understanding and finding a percent of a quantity as a ratio per 100.</li><li>• Using equivalent ratios, such as benchmark percents (50%, 25%, 10%, 5%, 1%), to determine a part of any given quantity.</li><li>• Finding the whole, given a part and the percent.</li></ul>

Figure 1. Outtake of the North Carolina Standard Course of Study – Sixth Grade Mathematics

### Selection of Content

For this study, NCDPI provided all available assessment forms for each grade/content area. There were three forms in all grades for both content areas, except grade 4, 7 and 8 reading and the high school math form for Mathematics I. These forms had roughly between 40 and

50 items each, so each group looked at 100 to 153 items depending on their grade/content area.

The items were divided into four sets: training items, calibration items, validation items, and individual items.

1. Training Set: 10 items that panelists studied together to practice the concepts introduced in the alignment study (e.g., aligning to a standard).
2. Calibration Set: 15 items that panelists rated individually before discussing areas of disagreement.
3. Validation Set: Additional 15 items that panelists rated individually before discussing areas of disagreement.
4. Individual Item Set: Each panelist individually reviewed between 5 and 15 items depending on their assigned grade.

## Process and Procedures

---

The study process and procedures were organized into three steps which covered item identification, item review, and resolution by both EdMetric content experts and by North Carolina educators. Steps were designed to leverage the expertise of independent content experts with deep knowledge of content standards and assessments as well as the expertise of North Carolina educators with current knowledge of students, curriculum, and instruction in the state. The process maintained a reasonable cognitive load for decision making for panelists, and workshop training emphasized panelists' important role as final decision makers who must critically review the initial ratings.

### *Step 1. Identify Items and Determine Initial Codes for Assessment Items and Standards*

The NCDPI provided the mathematics and reading test forms for all grades via Sync. EdMetric content experts reviewed the test forms in electronic format. Specifically, EdMetric content experts:

- Aligned items to North Carolina content standards;
- Rated the strength of the alignment to the assigned content standard;
- Assigned secondary alignment when applicable;
- Assigned items to a DOK;
- Assigned items to an NC EOG and EOC assessments achievement level descriptor (ALD); and
- Assigned minimum, maximum, and target DOKs to content standards.

### *Step 2. Review by North Carolina Educators*

Panels of North Carolina educators participated in an in-person workshop and reviewed the alignments made by the EdMetric content experts. The educators participated in group training throughout the workshop. Using EdMetric's Alignment Tool, North Carolina educators:

- Reviewed each item's assigned content standard alignment.
- Reviewed the strength of the item's alignment.
- Reviewed each item for secondary alignment.
- Reviewed each item's assigned DOK.
- Reviewed the assigned ALD.

Educators could choose to accept or make changes to all preliminary alignment ratings. At the start of the workshop, EdMetric facilitators provided training on the concepts of

alignment. Panelists practiced these concepts with the training items. Panelists then aligned the calibration items, followed by an in-depth discussion of those items for which panelists' alignment ratings disagreed. This process was repeated with validation items. Panelists then individually rated the remaining items.

**Grade-level Assignments.** Items were divided by grade level. Reviewers were instructed to align items at the grade level that matched their instructional assignment. If this was not possible, reviewers were allowed to align items at the most appropriate grade level, given their experience and instructional assignments.

### *Step 3. Review of Ratings with Disagreement*

When the majority of panelists disagreed with the initial assignment made by the content expert, the item was further reviewed by the entire panel. In subsequent rounds, panelists discussed all items for which there was significant disagreement. The grade-level facilitator recorded the group's final content standard, DOK, and/or ALD ratings.

## **Item Set**

---

Once the final alignment was determined by the North Carolina educators, the item set for analyses was limited to those items found to be aligned to on-grade standards. (See Tables 23 and 33 in Section 6 for the original item counts.)

## **Evaluation Criteria**

---

Evaluation criteria address agreement rates, categorical concurrence, DOK, ROK, and BOR in order to more fully evaluate the adequacy of alignment between the NC EOG and EOC assessments and the North Carolina content standards, as operationalized by the test blueprints, in terms of content, balance of content, and cognitive complexity at the full depth and breadth of the content standards. In this section, we review categorical concurrence, DOK, ROK, and BOR, providing the evaluation criteria that were used for judging relative alignments. Analyses were conducted on the provided test forms.

### **Agreement Rates**

The agreement rate refers to the similarity of ratings between two groups. In this study, we are particularly interested in the agreement rates between the NCDPI metadata and the North Carolina educators' final alignment. If the agreement rate is high, then this supports original ratings (in the metadata). In addition, it serves as a check of quality assurance of the item metadata. If the agreement rate is low, then it may suggest that the educators viewed the items differently than the original NCDPI metadata. High agreement rates indicate that the educators viewed the items in the same way as the original NCDPI raters.

To examine this, we computed the percentage of absolute agreement between the final educator alignment and the original NCDPI alignment at the domain level. Experts suggest varying rules for acceptable agreement rates depending on the consequences of agreement and the number of levels being compared. Here, number of levels refers to the number of domains within a grade. Following Graham, Milanowski, and Miller (2012), we used 75% as the cutoff for acceptable agreement.

### **Categorical Concurrence**

Categorical concurrence refers to how similar and consistent content is between the content standards and the assessment. Reviewers' alignment judgments were used to establish the number of items assigned to a domain. We examined categorical concurrence in two ways to answer the questions guiding this study.

First, we want to know the extent to which the test forms match the content standards. To analyze this, categorical concurrence was determined whereby the assessment was evaluated for alignment to its blueprint. Here, the percentage of items assigned to each domain by alignment ratings was compared to the assessment blueprint's required percentages. In other words, each assessment was evaluated for alignment in terms of its respective blueprint. Table 4 shows the evaluation rules for categorical concurrence.

**Table 4: Categorical Concurrence Evaluation Rules, Mathematics and Reading NC EOG and EOC Assessments**

Difference between expected (blueprint) percentage of items aligned to blueprint domain and actual percentage aligned to a blueprint domain	Evaluation
within 5% of minimum or maximum percentage expected by blueprint	Strongly Aligned
>5% and ≤10% of minimum or maximum percentage expected by blueprint	Moderately Aligned
>10% and ≤15% of minimum or maximum percentage expected by blueprint	Weakly Aligned
>15% of minimum or maximum percentage expected by blueprint	Minimal to no Alignment

### *Depth of Knowledge*

With the DOK assignment, reviewers investigated the cognitive complexity of items. Items should demand the same complexity, or cognitive rigor, as that expected by the content standards. For this evaluation, Webb's (1997, 1999) recommended criteria were employed (see Table 5).

All standards were assigned a DOK level by EdMetric content experts. All items were assigned both standards and DOKs. (Note that the DOK-to-item assignment is independent of the DOK of the standards assignment.) Once data were collected, EdMetric examined the DOK consistency of the items to the standards within the domains. For this independent study, EdMetric content experts determined the range of DOK for each standard.

**Table 5: DOK Evaluation Rules, Mathematics and Reading NC EOG and EOC Assessments**

Percentage of items corresponding to a Domain at or above the complexity level (e.g., DOK) of the Domain	Evaluation
≥50%	Strongly Aligned
≥40% and <50%	Moderately Aligned
≥30% and <40%	Weakly Aligned
<30%	No Alignment

### Range of Knowledge

The ROK examines the extent to which the items cover the standards (Webb, 1997). Table 6 summarizes the rules used to evaluate ROK alignment.

**Table 6: ROK Evaluation Rule, Mathematics and Reading NC EOG and EOC Assessments**

Percentage of Performance Expectations for a given Domain that have an associated item	Evaluation
≥50%	Strongly Aligned
≥40% and <50%	Moderately Aligned
≥30% and <40%	Weakly Aligned
<30%	No Alignment

### Balance of Representation

BOR is a measure of how items are distributed across the content standards. This alignment criterion examines whether the number of test items matched to a domain is proportional to the number of standards within that domain. For this, an index score was computed for each domain (Webb, 1999). The BOR was computed as:

$$BoR = 1 - \left( \frac{\left( \sum \left| \frac{1}{B} - \frac{I_K}{H} \right| \right)}{2} \right)$$

where  $B$  is the total number of standards within the domain,  $I_K$  is the number of items aligned to each standard ( $K$ ) within a domain, and  $H$  is the total number of items aligned to the domains. Table 7 shows the rules used to evaluate BOR.

**Table 7: BOR Evaluation Rules, Mathematics and Reading NC EOG and EOC Assessments**

BOR Index	Evaluation
≥0.70	Strongly Aligned
≥0.60 and <0.70	Moderately Aligned
≥0.50 and <0.60	Weakly Aligned
<0.50	No Alignment

## Section 3. Roles and Responsibilities

The two-day alignment workshop required North Carolina stakeholders to align NC EOG and EOC assessments items to the North Carolina content standards. The stakeholders were divided into grade and content area panels: grades 3 and 4, grades 5 and 6, grades 7 and 8, and high school. There were eight panels total.

### Workshop Panelists

The NCDPI recruited five educators per panel; however, only 39 panelists attended the workshop (see Appendix B for recruitment communications). Despite repeated efforts to recruit North Carolina educators, the final group sizes were not as large as originally intended. Considerations in the selection of panelists included grade-level teaching experience, content area experience, and experience with special populations. Additionally, panelists were chosen to be representative of the regions of North Carolina and the different types of school districts within the state. The panelists had a median of 15 years' experience and a median of 12 years' experience in North Carolina schools.

The following tables are based on information collected in the workshop's final evaluation. Despite multiple reminders, not all panelists successfully submitted the final evaluation. Table 8 shows the distribution of those panelists who completed the survey by district type. Table 9 shows the distribution of panelists by job title. Table 10 shows the distribution of panelists by types of experience they reported (panelists could choose more than one type of experience so the percentages will not total to 100). Table 11 shows the distribution of panelists by gender. Table 12 shows the distribution of panelists by race, and Table 13 shows the distribution of panelists self-reporting as Hispanic or not.

**Table 8: Panelists' Self-Reported District Type, Mathematics and Reading NC EOG and EOC Assessments**

District Type (n-count = 32)	Percentage
Rural	34.4%
Suburban	21.9%
Urban	34.4%
Town	9.4%

**Table 9: Panelists' Self-Reported Job Title, Mathematics and Reading NC EOG and EOC Assessments**

Job Title (n-count = 32)	Percentage
General Education Classroom Teacher	81.2%
Special Education Classroom Teacher	6.2%
Building Administrator	3.1%
Curriculum Specialist	3.1%
Non-classroom Teacher	6.2%

**Table 10: Panelists' Self-Reported Types of Teaching Experiences, Mathematics and Reading NC EOG and EOC Assessments**

Types of Experience (n-count = 32)	Percentage
ELA Instruction	62.5%
Mathematics Instruction	65.6%
Science Instruction	50.0%
Instruction of Students with Significant Cognitive Disabilities	18.8%
Instruction of English Learners	53.1%
Instruction of English Learners with Disabilities	37.5%
Reading or Literacy Intervention/Support	40.6%

**Table 11: Panelists' Self-Reported Gender, Mathematics and Reading NC EOG and EOC Assessments**

Gender (n-count = 32)	Percentage
Female	81.2%
Male	18.8%

**Table 12: Panelists' Self-Reported Race, Mathematics and Reading NC EOG and EOC Assessments**

Race (n-count = 32)	Percentage
American Indian or Alaska Native	0.0%
Asian	12.5%
Black or African-American	21.9%
Multiple Races	3.1%
White or Caucasian	62.5%



**Table 13: Panelists' Self-Reported Ethnicity, Mathematics and Reading NC EOG and EOC Assessments**

Hispanic (n-count = 32)	Percentage
No	90.6%
Yes	9.4%

## North Carolina Department of Public Instruction Staff

Elizabeth Nash from the NCDPI welcomed panelists during the opening session of the workshop. She introduced the NCDPI team and covered item development slides. In addition, Dan Auman, Michael Mahoney from NCDPI observed the workshop, and Iris Irving and Stephanie Boyd observed the opening session. All NCDPI staff members were available throughout the workshop to answer policy-related questions.

## Workshop Facilitators

The online alignment workshop was facilitated by the EdMetric team. Table 14 provides the names and affiliations of the expert content reviewers and facilitators for the NC EOG and EOC assessments alignment workshop.

**Table 14: Facilitators for the North Carolina Alignment Workshop, Mathematics and Reading NC EOG and EOC Assessments**

Name	Role	Biography
Karla Egan, Ph.D.	Overall Facilitator	EdMetric's founder, Karla Egan, Ph.D., has been active in the field of education and psychometrics for over 20 years. Dr. Egan has designed and led over 60 standard-setting workshops and more than two dozen alignment studies. She was instrumental in developing the system of achievement-level descriptors and standard-setting methodologies implemented by the Smarter Balanced Assessment Consortium. Dr. Egan has a keen understanding of the structure and format of academic content standards, deep understanding of assessment design and concepts, and the ability to bring individuals with differing thoughts, backgrounds, and levels of experience together in a positive professional learning environment.
Melia Franklin, Ed.D.	Overall Facilitator	Dr. Melia Franklin has been in education for over 25 years. She has served in multiple capacities: teacher, state department director, university instructor, and district office administrator. In these various roles she has helped orchestrate large-scale assessments at the state-level and worked directly with teachers at the district-level to create classroom assessments that affect instruction. As a teacher, she worked with a variety of students (At-Risk, English Learners, Special Education-including CWC-and general population) and frequently worked on state assessments serving as an item writer and content and bias reviewer, and assisting with several alignment studies. As an administrator, she led K-12 educators in all content areas through curriculum, assessment, instruction, and professional development for all student populations. As part of EdMetric, Dr. Franklin works with the team to write technical documentation, conduct assessment audits and alignment studies, and evaluate educational products.



Name	Role	Biography
Michael Brown	Mathematics Facilitator	Michael Brown is a nationally known, senior-level assessment consultant. His current work includes developing, constructing, and evaluating instructional and assessment materials for use by various local, state, national, and international groups. Previously, he worked as an employee and a manager at a large-scale testing entity. He participated in and managed the development of and support for approximately two dozen custom state tests. As an educator, Michael taught mathematics at grades 6 through 12 and at the community college level, and conducted presentations on mathematics content and pedagogy at numerous conferences. He is the recipient of several grants and awards.
Gretchen Schultz	Reading Facilitator	Ms. Schultz has more than 30 years of experience in education, curriculum development, assessment development, and publishing. Although her direct teaching experience has been at the secondary level, she has extensive experience developing assessments for all grade levels, K-12.

## Section 4. Workshop Implementation

---

This section details the implementation of the online alignment workshop. See Appendix C for the workshop agenda, and Appendix D for a summary of the training materials and slides.

### Moodle Site

---

EdMetric utilized a Moodle site for all workshop panelists that served as a centralized browser-based location for all workshop materials and tools. This site allowed EdMetric to confine logins to workshop hours. It also allowed each panelist to maintain a separate login.

### Non-disclosure Forms

---

Panelists signed non-disclosure forms when they arrived at the workshop.

### Workshop

---

The workshop began with a general opening session and training provided Drs. Karla Egan and Melia Franklin.

#### *Day 1: Opening Session and Training*

During the 30-minute opening session, a member of the NCDPI staff welcomed panelists, thanked them for their time and participation, and provided an overview of the assessment. Dr. Egan then provided an overview of what is meant by alignment and a preview of the work to come during the day and the week. Dr. Franklin provided in-depth training on how to align items to content standards, how to interpret DOK, and the decision rules that should guide their work. There were six decision rules that were set to guide panelist work:

1. Choose the standard first.
2. Full alignment means the item captures most of the meaning of the standard while partial alignment means the item captures a significant part but not all of the standard.
3. Start with on-grade standard alignments before moving to off-grade alignments. Only choose no alignment when no standard can be found that relates to the item.
4. Choose the highest DOK level demanded by the item.
5. Choose a secondary standard only if (a) an alternative alignment can be made, (b) an off-grade alignment has been made, or (c) a second standard is necessary to cover a critical part of the item.
6. Choose the ALD that best matches the student's proficiency if they answer the item correctly.

#### *Day 1: Grade-Span Breakout Groups*

Following training, panelists began with the training set of items. Following the training set, EdMetric administered a readiness survey to ensure panelists were ready to begin the work of the alignment study. The readiness survey is included in Appendix E. The results of the readiness survey are reported in Section 5.

Once the training sets were completed, panelists rated the calibration and validation items for the lower grade level in the span. The panelists discussed items for which fewer than 50% of panelists agreed with each other.

## Day 2: Grade-Span Breakout Groups

Day 2 began with a review of Day 1 and the agenda for the day. The groups completed their individual item sets. Then they moved into the calibration and validation item sets for the upper grade level in the span. All groups completed their work before 3:00 pm.

At the end of Day 2, internet issues caused some panelists to be unable to submit their work through EdMetric's alignment tool. Dr. Egan captured all affected ratings in a backup tool.

## Calibration and Validation Rounds

Table 15 shows the number of items at each grade that were flagged for discussion because of a disagreement between the initial ratings of the content experts and the ratings of the majority of the panelists. Panelists continued to discuss items until the majority agreed on the rating.

**Table 15: Number of Items Flagged for Discussion by Grade, Mathematics and Reading NC EOG and EOC Assessments**

Content	Grade/Course	Calibration	Validation	Total Items Discussed
Math	3	9	10	19
Math	4	15	13	28
Math	5	15	12	27
Math	6	17	11	28
Math	7	5	2	7
Math	8	5	3	8
Math	NC Math 1	11	7	18
Math	NC Math 3	10	9	19
Reading	3	6	2	8
Reading	4	2	4	6
Reading	5	12	15	27
Reading	6	20	20	40
Reading	7	14	14	28
Reading	8	15	15	30
English	English II	10	5	15

## Agreement Rates with Metadata

Table 16 and Table 17 report the agreement rates between final panelist alignments and the original metadata. We examined rates for exact agreement between the assigned standard in the metadata and the panelist-aligned standard and then agreement at the domain level.

For mathematics, exact agreement rates ranged from nearly 62% (Grade 6) to almost 87% (Grade 4). At the domain level, agreement rates ranged from nearly 87% (Grade 7) to almost 96% (Grade 4). A deeper dive into the data revealed no clear pattern of differences in alignment, except in high school NC Math 3 Functions. Here, 11 items were classified differently from the metadata. Ten of those Function items were aligned to an Algebra standard.

For reading (Table 17), exact agreement rates ranged from just over 44% (Grade 4) to nearly 84% (Grade 6). At the domain level, agreement rates ranged from just over 59% (Grade 4) to just over 93% (Grade 6). The exact agreement rates suggest that NCDPI may want to examine all grade/content areas where the agreement rates fell below the 75% cutoff. Here, a deeper dive revealed several areas of disagreement between the panelists and the metadata.

### **Grade 3**

- Ten items (10) were aligned to L3.4 in the metadata. Of these, panelists aligned six (6) to L.3.5.a.
- Twenty-three (23) items were aligned to RI.3.1 in the metadata. Of these, panelists aligned eight (8) to RI.3.3.
- Six (6) items were aligned to RI.3.4 in the metadata. Of these, panelists aligned five (5) to L.3.4.
- Seventeen (17) items were aligned to RL.3.1 in the metadata. Of these, eight (8) were aligned to RL.3.3.
- Seven (7) items were aligned to RL.3.3 in the meta data. Of these, panelists aligned two (2) items to RL.3.1 and five (5) items to a Language standards.

### **Grade 4**

- Fifteen (15) items were aligned to RI.4.1 in the metadata. Panelists aligned seven (7) of these to RI.4.3 and three (3) to RI.4.8.
- Five (5) items were aligned to RI.4.4 in the metadata. All were aligned to L.4.4 by the panelists.
- Ten (10) items were aligned to RL.4.1 in the metadata. Seven (7) of these were aligned to RL.4.3 by the panelists.

### **Grade 5**

- Sixteen (16) items were aligned to RI.5.1 in the metadata. Of these, seven (7) items were aligned to different standards, including RI.5.3 and RI.5.8. Two (2) others had no alignment.
- Nine (9) items were aligned to RI.5.4 in the metadata. Of these, only two (2) kept their original alignment. Four (4) were aligned to a Language standard, two (2) were aligned to different RI standards, and one (1) was not aligned.
- Fourteen (14) items were aligned to RL.5.1 in the metadata. Of these, six (6) were aligned to different RL standards, including four (4) aligned to RL.5.2.

### **Grade 6**

- Six items were aligned to RI.6.4 in the metadata. Of these, two (2) were aligned to a Language standard and two (2) others were aligned to a different RI standard.

### **Grade 8**

- Two (2) items assigned to L.8.5.a in the metadata were assigned to L.8.4 by the panelists.

### High School English I

- Twenty (20) items were aligned to RL.10.1 in the metadata. Of these, panelists aligned 11 items to RL.10.3.
- Twelve (12) items aligned to RL.10.4 in the metadata. Panelists aligned five (5) of those items to a Language standard.

**Table 16: Agreement Rates between Final Panelist Ratings and NCDPI Metadata, Mathematics NC EOG and EOC Assessments**

Grade/Course	Total Items	Exact Match	Domain Match
3	120	72.50%	92.50%
4	120	86.67%	95.83%
5	120	80.83%	92.50%
6	135	62.22%	88.89%
7	135	63.70%	86.67%
8	135	85.93%	92.59%
NC Math 1	100	68.00%	88.00%
NC Math 3	150	68.00%	88.00%

**Table 17: Agreement Rates between Final Panelist Ratings and NCDPI Metadata, Reading NC EOG and EOC Assessments**

Grade/Course	Total Items	Exact Match	Domain Match
3	120	60.83%	90.00%
4	80	66.25%	88.75%
5	120	71.67%	92.50%
6	132	85.61%	95.45%
7	88	92.05%	96.59%
8	88	81.82%	94.32%
English II	153	64.71%	92.81%

### Agreement Rates Between Experts and Educators

Table 18 reports the agreement rate between the panelists and the EdMetric experts. Panelists were asked if there was any portion of the alignment that they would change. The initial agreement rate reflects the percentage of times the panelists agreed with all the EdMetric content expert's alignments (i.e., content standard, DOK, secondary standard, alignment strength, and ALD). These agreement rates are based on all panelists in the group, prior to any discussion about items. There were no expectations regarding agreement between the panelists and the EdMetric experts. The percentages in Table 18 are based on

all panelists within a grade group. Agreement with the expert ranged from just over 28% in grade 6 reading to 81% in grade 4 reading.

**Table 18: Initial Agreement Rate with Content Experts, Mathematics and Reading NC EOG and EOC Assessments**

Grade/Course	Content Area	Number of Items	Initial Agreement
3	Math	120	46.07%
4	Math	120	40.71%
5	Math	120	26.67%
6	Math	135	51.85%
7	Math	135	79.26%
8	Math	135	80.00%
NC Math 1 & 3	Math	250	63.64%
3	Reading	120	75.83%
4	Reading	80	81.00%
5	Reading	120	37.50%
6	Reading	132	28.41%
7	Reading	88	47.73%
8	Reading	88	50.45%
English II	English	153	58.04%

The agreement rates between the final alignments of North Carolina educators and the EdMetric content experts are reported in Table 19. These agreement rates are based only on the final assigned alignments, so this looks at the agreement rates of item-level assignments. These are the agreement rates for all items, including those used in the training, calibration, validation, and individual item sets. After training, calibration, validation, and discussion, the final panelist alignments tended to agree with the EdMetric content experts on the primary and secondary aligned standard but disagreed with alignment strength, DOK, and ALD.

**Table 19: Final Agreement Rates by Grade Level, Mathematics and Reading NC EOG and EOC Assessments**

Grade/Course	Content Area	Number of Items	Standard Grade	Standard	Alignment Strength	DOK	Secondary Standard	ALD
3	Math	120	99.2%	97.5%	64.2%	92.5%	94.2%	75.0%
4	Math	120	100.0%	96.7%	64.2%	90.8%	88.3%	63.3%
5	Math	120	97.5%	94.2%	93.3%	69.2%	98.3%	43.3%

Grade/ Course	Content Area	Number of Items	Standard Grade	Standard	Alignment Strength	DOK	Secondary Standard	ALD
6	Math	135	100.0%	97.0%	84.4%	83.7%	98.5%	57.0%
7	Math	135	100.0%	99.3%	96.3%	86.7%	96.3%	68.9%
8	Math	135	99.3%	97.8%	94.8%	89.6%	97.0%	70.4%
NC Math 1 & 3	Math	250	98.4%	87.6%	94.4%	84.0%	96.8%	70.4%
3	ELA	120	100.0%	91.7%	95.8%	93.3%	95.0%	79.2%
4	ELA	80	100.0%	95.0%	100.0%	97.5%	98.8%	92.5%
5	ELA	120	97.5%	97.5%	53.3%	81.7%	100.0%	73.3%
6	ELA	132	99.2%	99.2%	58.3%	75.0%	95.5%	59.1%
7	ELA	88	100.0%	98.9%	88.6%	63.6%	98.9%	81.8%
8	ELA	88	100.0%	100.0%	87.5%	85.2%	100.0%	76.1%
English II	English	153	100.0%	93.5%	94.1%	87.6%	88.2%	81.7%

## Section 5. Evaluations

To ensure that all panelists were prepared to continue with the alignment rating process, readiness evaluations were administered. Final evaluations were administered at the end of the workshop.

### Readiness Survey

Following the initial training, panelists took a short readiness survey designed to determine whether they felt prepared to begin working with items in the calibration round. The readiness survey can be found in Appendix E.

Table 20 shows the results of the readiness survey. Overall, panelists indicated that they understood the process and their role within the process. Five people did not complete the survey (despite repeated requests that they complete it). One panelist indicated that she had additional questions. Dr. Egan met with the panelist who had additional questions before continuing training to clarify and provide additional training, as needed. Throughout the workshop, panelists could contact EdMetric staff with any questions. EdMetric staff worked with NCDPI staff to provide timely responses and maintain open communication.

**Table 20: Results from Readiness Survey, Mathematics and Reading NC EOG and EOC Assessments**

n-count = 34	Strongly Agree	Agree	Disagree	Strongly Disagree
I understand what depth of knowledge (DOK) means.	47.1%	50.0%	0.0%	2.9%
The training session provided me a clear overview of the alignment process.	64.7%	32.4%	0.0%	2.9%
I understand the goals of the alignment study workshop.	67.6%	32.4%	0.0%	0.0%
I understand my role in the workshop.	70.6%	26.5%	2.9%	0.0%
I understand how to rate the items on the online worksheet.	61.8%	35.3%	2.9%	0.0%
I understand how I will (1) rate the items independently and (2) work with my panel to resolve different ratings.	64.7%	35.3%	0.0%	0.0%
I understand the purpose of each type of rating.	61.8%	38.2%	0.0%	0.0%
The training round was helpful to me.	76.5%	23.5%	0.0%	0.0%
I understand that I will receive additional training throughout the workshop.	76.5%	20.6%	2.9%	0.0%



## Final Evaluation

At the conclusion of the workshop, panelists completed a final evaluation (included in Appendix F). The results of the final evaluation are presented in Table 21. Overall, panelists agreed that they had received adequate training and that they understood how to make their ratings. In addition, all panelists indicated that they could defend their alignments. Some panelists did not complete the final survey despite repeated requests to complete it.

**Table 21: Results from the Final Evaluation, Mathematics and Reading NC EOG and EOC Assessments**

n-count = 32	Strongly Agree	Agree	Disagree	Strongly Disagree
The workshop training and practice prepared me for the assigned tasks.	78.1%	21.9%	0.0%	0.0%
I understand the purpose of discussing the items where my panel disagreed.	81.2%	18.8%	0.0%	0.0%
I understand the purpose of the Calibration Set.	81.2%	18.8%	0.0%	0.0%
I understand the purpose of the Validation Set (if applicable).	78.1%	21.9%	0.0%	0.0%
I rated my items independently.	78.1%	21.9%	0.0%	0.0%
I believe that others listened to my opinions during our discussion of alignment ratings.	78.1%	21.9%	0.0%	0.0%
I understood my role in the workshop.	78.1%	21.9%	0.0%	0.0%
I understood how to make alignment decisions.	78.1%	21.9%	0.0%	0.0%
I understood how to assign DOK (EOG/EOC) or LAL (NCEXTEND1) levels.	71.9%	28.1%	0.0%	0.0%
I understood how to make alignment strength decisions (i.e. full, partial).	78.1%	21.9%	0.0%	0.0%
I understood how to make ALD alignment decisions.	65.6%	31.2%	3.1%	0.0%
I had enough time to rate all of the items assigned to me.	81.2%	18.8%	0.0%	0.0%
I can defend why I aligned each item as I did.	71.9%	28.1%	0.0%	0.0%
I understood how to use the Workshop Website on Moodle and the linked materials.	84.4%	15.6%	0.0%	0.0%
I felt the group discussion was meaningful.	81.2%	18.8%	0.0%	0.0%

n-count = 32	Strongly Agree	Agree	Disagree	Strongly Disagree
Participating in the workshop increased my understanding of the assessment I worked on.	84.4%	15.6%	0.0%	0.0%
Participating in the workshop increased my understanding of the content standards.	81.2%	18.8%	0.0%	0.0%
The work space was appropriate to facilitate our work.	78.1%	18.8%	3.1%	0.0%
The workshop's organization made sense to me.	87.5%	12.5%	0.0%	0.0%

As part of the final evaluation, panelists were offered the opportunity to provide qualitative feedback regarding the alignment study workshop (Table 22). In general, the comments indicated that panelists enjoyed and benefited from the workshop.

**Table 22: Qualitative Feedback from Final Evaluation, Mathematics and Reading NC EOG and EOC Assessments**

Open-ended Responses
A few technical issues, but there were work arounds. The staff were patient and understanding.
I learned a lot from this workshop! Thank you!
I enjoyed learning so much from this experience. Thank you!
Thank you for the opportunity to participate in this workshop! Please consider me in the future for Science Alignment / Standards / Assessment / etc opportunities - as middle school Science is my "area of expertise!" Safe travels back to Missouri, thanks to DPI for being here, too and all of the coordination to make this a success!
I understand why I was added to a reading group but we should be aware of the standards.
I enjoyed the workshop! The people I worked with were great. The only complaint was the room was cold each afternoon.
This was great! Thank you for the experience.
It was a great opportunity and enriching opportunity. Everything was well organized and presented. It was an honor to be on the panel.
Please check #21 on the 7th grade (we ALL disagreed, so maybe it's a poor question?) and #7 on the 8th grade (no answer?)
This workshop has been quite enriching, informative and given me a wealth of knowledge.
Great workshop!
It took me time to realize how the Achievement Level Descriptor document could help me. Maybe if we could be made to pull that up or open that at the beginning of the training it would be more helpful.

Open-ended Responses
Overall, this was a great study. The technology failed at the end which made the last two parts of this study challenging - which was NOT the fault of EdMetrics or DPI. I learned a great deal from these two days. Thank you all so much!
I had a great time and learned a lot! Technology issues were defeating and frustrating, but was no ones fault. Thank you for your time and effort!
Overall, this was a wonderful experience minus the technology glitches that occurred during the process. However, the team worked urgently and were very helpful in the process.
-
Thank you for having me and your professionalism. Great job and thanks once again!
I learned a lot from this workshop, and I appreciate the opportunity to participate.
Thank you so much for allowing me to help with this important work.
Thank you for letting me participate in this worthwhile experience for teachers.

## Section 6. Results

Data from the North Carolina educators' final alignment ratings were used to conduct analyses on the test forms. This section presents the results of these analyses for mathematics followed by reading.

### Mathematics

Table 23 presents the item-level analysis for mathematics. The table presents two pieces of information. First, it reports the percentage of items aligned to a North Carolina standard from any grade level. Secondly, the table presents the percentage of items aligned to a North Carolina standard at the item's intended grade level.

Table 23 demonstrates that NC EOG and EOC assessments items were well aligned to the North Carolina content standards. For the remainder of this report, only items aligned to a North Carolina standard at the item's intended grade level are included in computations. All items aligned to a content standard, and over 95% aligned to their assigned grade level.

Table 24 shows the distribution of items by alignment strength. Full alignment ranged from just over 59% in grade 3 to slightly over 95% in grade 7 and high school NC Math 1.

For item-level alignment results, see Appendix I; for form-level alignment results, see Appendix J.

**Table 23: Percentage of Items Aligned to any Standard and to an On-Grade Standard, Mathematics NC EOG and EOC Assessments**

Grade/Course	N of Original Item Set	% Aligned to Any Standard	% Aligned Items Matched to On-Grade Standard
3	120	100.0%	95.8%
4	120	100.0%	100.0%
5	120	100.0%	96.7%
6	135	100.0%	99.3%
7	135	100.0%	100.0%
8	135	100.0%	99.3%
NC Math 1	100	100.0%	97.0%
NC Math 3	150	100.0%	98.7%

**Table 24: Percentage of Items by Alignment Strength, Mathematics NC EOG and EOC Assessments**

Grade/Course	Number of Items	Partial	Full
3	115	40.9%	59.1%
4	120	35.0%	65.0%

Grade/Course	Number of Items	Partial	Full
5	116	16.4%	83.6%
6	134	18.7%	81.3%
7	135	4.4%	95.6%
8	134	6.0%	94.0%
NC Math 1	97	4.1%	95.9%
NC Math 3	148	7.4%	92.6%

### ***Categorical Concurrence***

Table 25 shows the alignment evaluation of categorical concurrence of the items. Table 25 shows that all domains are strongly aligned, except for grade 7 Ratios and Proportional Relationships which was moderately aligned. This table shows evidence that the enacted blueprint was tightly aligned to the intended blueprint.

**Table 25: Categorical Concurrence, Mathematics NC EOG and EOC Assessments**

Grade/Course	Domain	Average Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
3	Measurement and Data, Geometry	9.3	23-27%	25.0%	Strongly Aligned
3	Number and Operations in Base Ten	4.7	9-13%	12.5%	Strongly Aligned
3	Number and Operations – Fractions	10.7	28-32%	28.6%	Strongly Aligned
3	Operations and Algebraic Thinking	12.7	32-36%	33.9%	Strongly Aligned
4	Measurement and Data, Geometry	9.7	23-27%	24.2%	Strongly Aligned
4	Number and Operations in Base Ten	11.7	25-29%	29.2%	Strongly Aligned
4	Number and Operations – Fractions	13.0	30-34%	32.5%	Strongly Aligned
4	Operations and Algebraic Thinking	5.7	14-18%	14.2%	Strongly Aligned
5	Measurement and Data, Geometry	7.7	19-23%	20.0%	Strongly Aligned

Grade/Course	Domain	Average Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
5	Number and Operations in Base Ten	11.3	25-29%	29.6%	Strongly Aligned
5	Number and Operations – Fractions	15.0	39-43%	39.1%	Strongly Aligned
5	Operations and Algebraic Thinking	4.3	9-13%	11.3%	Strongly Aligned
6	Expressions and Equations	11.0	22-26%	24.6%	Strongly Aligned
6	Geometry	5.3	12-16%	12.0%	Strongly Aligned
6	Ratios and Proportional Relationships	13.3	24-28%	29.9%	Strongly Aligned
6	Statistics and Probability	6.0	12-16%	13.4%	Strongly Aligned
6	The Number System	9.0	20-24%	20.1%	Strongly Aligned
7	Expressions and Equations	6.7	20-24%	15.2%	Strongly Aligned
7	Geometry	7.7	16-20%	17.5%	Strongly Aligned
7	Ratios and Proportional Relationships	14.7	24-28%	33.6%	Moderately Aligned
7	Statistics and Probability	9.7	22-26%	22.1%	Strongly Aligned
7	The Number System	5.0	8-12%	11.5%	Strongly Aligned
8	Functions	14.7	28-32%	32.8%	Strongly Aligned
8	Geometry	12.0	24-28%	26.8%	Strongly Aligned
8	Statistics and Probability	6.0	16-20%	13.5%	Strongly Aligned
8	The Number System,	12.0	24-28%	26.9%	Strongly Aligned

Grade/Course	Domain	Average Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
	Expressions and Equations				
NC Math 1	Functions	16.5	32-36%	34.8%	Strongly Aligned
NC Math 1	Geometry	5.0	8-12%	10.5%	Strongly Aligned
NC Math 1	Number and Quantity and Algebra	18.0	36-40%	37.9%	Strongly Aligned
NC Math 1	Statistics and Probability	8.0	18-20%	16.8%	Strongly Aligned
NC Math 3	Functions	15.0	32-36%	30.4%	Strongly Aligned
NC Math 3	Geometry	11.0	20-24%	22.3%	Strongly Aligned
NC Math 3	Number and Quantity and Algebra	19.3	32-36%	39.2%	Strongly Aligned
NC Math 3	Statistics and Probability	4.0	8-12%	8.1%	Strongly Aligned

### **Depth of Knowledge (DOK)**

Table 26 shows the distribution of items by DOK for each grade level. Most items were aligned to DOK 2, but over 35% were aligned to DOK 3 in grades 7 and 8. Table 27 shows the expected distribution of DOK by grade level. When we compare Tables 26 and 27, we see the enacted DOK distributions are higher than that intended. For example, the intended DOK distribution in grade 7 calls for 50 to 60% of items aligned to DOK 2 with 8 to 15% aligned to DOK 3. The enacted DOKs show nearly 52% aligned to DOK 2 and almost 45% aligned to DOK 3. There are only 1.48% DOK 1 according to panelists while the intention is that 25-35% are DOK 1.

**Table 26: Distribution of DOK, Mathematics NC EOG and EOC Assessments**

Grade/Course	Number of Items	DOK 1	DOK 2	DOK 3	DOK 4
3	115	18.3%	78.3%	3.5%	0.0%
4	120	17.5%	80.8%	1.7%	0.0%
5	116	10.3%	77.6%	12.1%	0.0%
6	134	7.5%	72.4%	20.1%	0.0%
7	135	1.5%	51.9%	45.2%	1.5%

Grade/Course	Number of Items	DOK 1	DOK 2	DOK 3	DOK 4
8	134	11.2%	52.2%	36.6%	0.0%
NC Math 1	97	6.2%	67.0%	25.8%	1.0%
NC Math 3	148	10.8%	62.8%	26.4%	0.0%

**Table 27: Expected Distribution of DOK, Mathematics NC EOG and EOC Assessments**

Grade/Course	DOK 1	DOK 2	DOK3
3	40–50%	50–60%	0%
4	35–45%	50–60%	5%
5	30–40%	50–60%	8–10%
6	25–35%	50–60%	8–15%
7	25–35%	50–60%	8–15%
8	25–35%	50–60%	8–15%
NC Math 1	20-30%	60-65%	8-12%
NC Math 3	20-30%	60-65%	8-12%

Table 28 shows the alignment evaluation for DOK when averaged across the three forms. Table 28 shows the percentage of items aligned at or above the standard's Target DOK. Here, we see that over half of the items are aligned to the Target DOK or higher in all grades, except grade 8 Statistics and Probability. Even here, just over 49% of the items were aligned to the Target DOK or higher. Using the evaluation criteria, all domains except grade 8 Statistics and Probability were judged strongly aligned. Note that the range of DOK for each standard was determined by the EdMetric expert raters.

**Table 28: Depth of Knowledge, Mathematics NC EOG and EOC Assessments**

Grade/Course	Domain	Average Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Measurement and Data, Geometry	9.3	1-2	79.3%	Strongly Aligned
3	Number and Operations in Base Ten	4.7	2-2	100.0%	Strongly Aligned
3	Number and Operations – Fractions	10.7	2-2	81.5%	Strongly Aligned



Grade/ Course	Domain	Average Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Operations and Algebraic Thinking	12.7	2-2	83.4%	Strongly Aligned
4	Measurement and Data, Geometry	9.7	1-2	86.3%	Strongly Aligned
4	Number and Operations in Base Ten	11.7	1-2	91.4%	Strongly Aligned
4	Number and Operations – Fractions	13.0	2-3	66.7%	Strongly Aligned
4	Operations and Algebraic Thinking	5.7	1-2	94.4%	Strongly Aligned
5	Measurement and Data, Geometry	7.7	1-3	64.9%	Strongly Aligned
5	Number and Operations in Base Ten	11.3	1-2	88.1%	Strongly Aligned
5	Number and Operations – Fractions	15.0	1-2	100.0%	Strongly Aligned
5	Operations and Algebraic Thinking	4.3	2-2	100.0%	Strongly Aligned
6	Expressions and Equations	11.0	1-3	93.9%	Strongly Aligned
6	Geometry	5.3	2-2	100.0%	Strongly Aligned
6	Ratios and Proportional Relationships	13.3	1-3	53.2%	Strongly Aligned
6	Statistics and Probability	6.0	1-3	100.0%	Strongly Aligned
6	The Number System	9.0	1-2	86.8%	Strongly Aligned
7	Expressions and Equations	6.7	2-2	94.4%	Strongly Aligned
7	Geometry	7.7	1-2	100.0%	Strongly Aligned

Grade/ Course	Domain	Average Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
7	Ratios and Proportional Relationships	14.7	1-3	90.5%	Strongly Aligned
7	Statistics and Probability	9.7	1-4	97.0%	Strongly Aligned
7	The Number System	5.0	1-1	100.0%	Strongly Aligned
8	Functions	14.7	1-3	88.7%	Strongly Aligned
8	Geometry	12.0	2-2	100.0%	Strongly Aligned
8	Statistics and Probability	6.0	2-3	49.0%	Moderately Aligned
8	The Number System, Expressions and Equations	12.0	1-2	100.0%	Strongly Aligned
NC Math 1	Functions	16.5	2-3	78.7%	Strongly Aligned
NC Math 1	Geometry	5.0	1-2	90.0%	Strongly Aligned
NC Math 1	Number and Quantity and Algebra	18.0	1-3	83.3%	Strongly Aligned
NC Math 1	Statistics and Probability	8.0	2-3	60.3%	Strongly Aligned
NC Math 3	Functions	15.0	2-3	82.0%	Strongly Aligned
NC Math 3	Geometry	11.0	2-2	96.7%	Strongly Aligned
NC Math 3	Number and Quantity and Algebra	19.3	1-3	89.9%	Strongly Aligned
NC Math 3	Statistics and Probability	4.0	2-3	66.7%	Strongly Aligned

### **Range of Knowledge (ROK)**

Table 29 shows the percentage of standards within a domain covered by at least one item. Using the evaluation criteria, all domains show strong alignment for ROK in all grades, except grade 6 Statistics and Probability and high school NC Math 3 Functions. In grade 6, SP.3.b, SP.4. ,SP.5.a, and SP.5.b were not covered on at least one form. In NC Math 3, the

following standards did not have items aligned within the Functions domain on at least one form: BF.1.a, BF.1.b, BF.4.a, BF.4.b, BF.4.c, IF.4, IF.9, LE.3, TF.1, TF.2a, TF.2b.

**Table 29: Range of Knowledge, Mathematics NC EOG and EOC Assessments**

Grade/ Course	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
3	Measurement and Data, Geometry	7	71.4%	Strongly Aligned
3	Number and Operations in Base Ten	2	100.0%	Strongly Aligned
3	Number and Operations – Fractions	4	91.7%	Strongly Aligned
3	Operations and Algebraic Thinking	6	83.3%	Strongly Aligned
4	Measurement and Data, Geometry	9	77.8%	Strongly Aligned
4	Number and Operations in Base Ten	5	93.3%	Strongly Aligned
4	Number and Operations – Fractions	6	100.0%	Strongly Aligned
4	Operations and Algebraic Thinking	4	75.0%	Strongly Aligned
5	Measurement and Data, Geometry	5	93.3%	Strongly Aligned
5	Number and Operations in Base Ten	4	100.0%	Strongly Aligned
5	Number and Operations – Fractions	4	100.0%	Strongly Aligned
5	Operations and Algebraic Thinking	2	83.3%	Strongly Aligned
6	Expressions and Equations	8	75.0%	Strongly Aligned
6	Geometry	4	91.7%	Strongly Aligned
6	Ratios and Proportional Relationships	4	91.7%	Strongly Aligned
6	Statistics and Probability	5	46.7%	Moderately Aligned
6	The Number System	11	57.6%	Strongly Aligned

Grade/ Course	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
7	Expressions and Equations	4	75.0%	Strongly Aligned
7	Geometry	5	86.7%	Strongly Aligned
7	Ratios and Proportional Relationships	6	77.8%	Strongly Aligned
7	Statistics and Probability	12	52.8%	Strongly Aligned
7	The Number System	1	100.0%	Strongly Aligned
8	Functions	5	100.0%	Strongly Aligned
8	Geometry	5	93.3%	Strongly Aligned
8	Statistics and Probability	4	83.3%	Strongly Aligned
8	The Number System, Expressions and Equations	8	83.3%	Strongly Aligned
NC Math 1	Functions	15	66.7%	Strongly Aligned
NC Math 1	Geometry	3	100.0%	Strongly Aligned
NC Math 1	Number and Quantity and Algebra	17	64.7%	Strongly Aligned
NC Math 1	Statistics and Probability	7	64.3%	Strongly Aligned
NC Math 3	Functions	16	43.8%	Moderately Aligned
NC Math 3	Geometry	8	83.3%	Strongly Aligned
NC Math 3	Number and Quantity and Algebra	16	68.8%	Strongly Aligned
NC Math 3	Statistics and Probability	4	83.3%	Strongly Aligned

### ***Balance of Representation (BOR)***

Table 30 shows moderate to strong alignment for BOR in all grades, except the following which were weakly aligned: grade 6 Number System and grade 7 Statistics and Probability.

Two were not aligned: grade 6 Statistics and Probability and high school NC Math 3 Functions.

**Table 30: Balance of Representation, Mathematics NC EOG and EOC Assessments**

Grade/ Course	Domain	Average Number of Items	BOR	Alignment Evaluation
3	Measurement and Data, Geometry	9.3	0.66	Moderately Aligned
3	Number and Operations in Base Ten	4.7	0.86	Strongly Aligned
3	Number and Operations – Fractions	10.7	0.67	Moderately Aligned
3	Operations and Algebraic Thinking	12.7	0.62	Moderately Aligned
4	Measurement and Data, Geometry	9.7	0.74	Strongly Aligned
4	Number and Operations in Base Ten	11.7	0.69	Moderately Aligned
4	Number and Operations – Fractions	13.0	0.82	Strongly Aligned
4	Operations and Algebraic Thinking	5.7	0.66	Moderately Aligned
5	Measurement and Data, Geometry	7.7	0.83	Strongly Aligned
5	Number and Operations in Base Ten	11.3	0.80	Strongly Aligned
5	Number and Operations – Fractions	15.0	0.83	Strongly Aligned
5	Operations and Algebraic Thinking	4.3	0.77	Strongly Aligned
6	Expressions and Equations	11.0	0.66	Moderately Aligned
6	Geometry	5.3	0.78	Strongly Aligned
6	Ratios and Proportional Relationships	13.3	0.64	Moderately Aligned
6	Statistics and Probability	6.0	0.44	Not Aligned
6	The Number System	9.0	0.58	Weakly Aligned
7	Expressions and Equations	6.7	0.69	Moderately Aligned
7	Geometry	7.7	0.72	Strongly Aligned

Grade/ Course	Domain	Average Number of Items	BOR	Alignment Evaluation
7	Ratios and Proportional Relationships	14.7	0.67	Moderately Aligned
7	Statistics and Probability	9.7	0.53	Weakly Aligned
7	The Number System	5.0	1.00	Strongly Aligned
8	Functions	14.7	0.83	Strongly Aligned
8	Geometry	12.0	0.83	Strongly Aligned
8	Statistics and Probability	6.0	0.73	Strongly Aligned
8	The Number System, Expressions and Equations	12.0	0.73	Strongly Aligned
NC Math 1	Functions	16.5	0.63	Moderately Aligned
NC Math 1	Geometry	5.0	0.80	Strongly Aligned
NC Math 1	Number and Quantity and Algebra	18.0	0.63	Moderately Aligned
NC Math 1	Statistics and Probability	8.0	0.60	Moderately Aligned
NC Math 3	Functions	15.0	0.44	Not Aligned
NC Math 3	Geometry	11.0	0.73	Strongly Aligned
NC Math 3	Number and Quantity and Algebra	19.3	0.63	Moderately Aligned
NC Math 3	Statistics and Probability	4.0	0.83	Strongly Aligned

### Overall Summary for Mathematics

To find the overall alignment for each grade-level, the reported alignment evaluation was averaged for each domain. Strong alignment was assigned a score of 4, moderate alignment a score of 3, weak alignment a score of 1, and no alignment a score of 0. Once averaged across evaluation categories (categorical concurrence, DOK, ROK, and BOR), the scores were rounded to the nearest whole number.

Table 31 shows the overall alignment evaluation of the test forms. Overall, the domains appear to be strongly aligned in all grades, except grade 6 Statistics and Probability and Number System, grade 7 Statistics and Probability, and high school NC Math 3 Functions, which are all moderately aligned.

For item-level alignment results, see Appendix I; for form-level alignment results, see Appendix J.

**Table 31: Evaluation Summary, Mathematics NC EOG and EOC Assessments**

Grade/ Course	Domain	Categorical Concurrence	DOK Evaluation	ROK Evaluation	BOR Evaluation	Overall Evaluation
3	Measurement and Data, Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
3	Number and Operations in Base Ten	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
3	Number and Operations – Fractions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
3	Operations and Algebraic Thinking	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
4	Measurement and Data, Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Number and Operations in Base Ten	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
4	Number and Operations – Fractions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Operations and Algebraic Thinking	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
5	Measurement and Data, Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
5	Number and Operations in Base Ten	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
5	Number and Operations – Fractions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
5	Operations and Algebraic Thinking	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
6	Expressions and Equations	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
6	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned

Grade/ Course	Domain	Categorical Concurrence	DOK Evaluation	ROK Evaluation	BOR Evaluation	Overall Evaluation
6	Ratios and Proportional Relationships	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
6	Statistics and Probability	Strongly Aligned	Strongly Aligned	Moderately Aligned	Not Aligned	Moderately Aligned
6	The Number System	Strongly Aligned	Strongly Aligned	Strongly Aligned	Weakly Aligned	Moderately Aligned
7	Expressions and Equations	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
7	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
7	Ratios and Proportional Relationships	Moderately Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
7	Statistics and Probability	Strongly Aligned	Strongly Aligned	Strongly Aligned	Weakly Aligned	Moderately Aligned
7	The Number System	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	Functions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	Statistics and Probability	Strongly Aligned	Moderately Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	The Number System, Expressions and Equations	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
Math 1	Functions	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
Math 1	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
Math 1	Number and Quantity and Algebra	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
NC Math 1	Statistics and Probability	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
NC Math 3	Functions	Strongly Aligned	Strongly Aligned	Moderately Aligned	Not Aligned	Moderately Aligned



Grade/ Course	Domain	Categorical Concurrence	DOK Evaluation	ROK Evaluation	BOR Evaluation	Overall Evaluation
NC Math 3	Geometry	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
NC Math 3	Number and Quantity and Algebra	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
NC Math 3	Statistics and Probability	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned

## Reading

Table 32 presents the item-level analysis for reading. The table presents two pieces of information. First, it reports the percentage of items aligned to a North Carolina standard from any grade level. Secondly, the table presents the percentage of items aligned to a North Carolina standard at the item's intended grade level.

Table 32 demonstrates that North Carolina EOG and EOC assessments items were well aligned to the North Carolina content standards. For the remainder of this report, only items aligned to a North Carolina standard at the item's intended grade level are included in computations. All items aligned to an North Carolina content standard in all grades except grades 5 and 6. Similarly, all items aligned to an on-grade North Carolina standard except in grades 5 and 6.

Table 33 shows the assigned alignment strengths. Full alignment ranged from just under 4% in grade 4 to slightly over 60% in grade 5.

For item-level alignment results, see Appendix I; for form-level alignment results, see Appendix J.

**Table 32: Percentage of Items Aligned to any Standard and to an On-Grade Standard, Reading NC EOG and EOC Assessments**

Grade/Course	N of Original Item Set	% Items Aligned to Any Standard	% Aligned Items Matched to On-Grade Standard
3	120	100.0%	100.0%
4	80	100.0%	100.0%
5	120	97.5%	97.5%
6	132	99.2%	99.2%
7	88	100.0%	100.0%
8	88	100.0%	100.0%
English II	152	100.0%	100.0%

**Table 33: Percentage of Items by Alignment Strength, Reading NC EOG and EOC Assessments**

Grade/Course	Number of Items	Partial	Full
3	120	80.8%	19.2%
4	80	96.2%	3.8%
5	117	39.3%	60.7%
6	131	52.7%	47.3%
7	88	75.0%	25.0%
8	88	60.2%	39.8%
English II	152	78.3%	21.7%

### ***Categorical Concurrence***

Table 34 shows the alignment evaluation of categorical concurrence. These results are averaged based on the test forms provided by NCDPI. Table 34 shows that all domains are strongly aligned, except for grade 3 Language, which was moderately aligned. This table shows evidence that the enacted blueprint was tightly aligned to the intended blueprint.

**Table 34: Categorical Concurrence, Reading NC EOG and EOC Assessments**

Grade/ Course	Domain	Average Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
3	Language	8.3	13-15%	21.0%	Moderately Aligned
3	Reading for Informational	18.0	46-50%	45.4%	Strongly Aligned
3	Reading for Literature	13.3	32-42%	33.6%	Strongly Aligned
4	Language	7.0	13-15%	17.5%	Strongly Aligned
4	Reading for Informational	18.0	46-50%	45.0%	Strongly Aligned
4	Reading for Literature	15.0	32-42%	37.5%	Strongly Aligned
5	Language	6.3	13-15%	16.5%	Strongly Aligned
5	Reading for Informational	17.0	46-50%	44.4%	Strongly Aligned

Grade/ Course	Domain	Average Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
5	Reading for Literature	15.0	32-42%	39.2%	Strongly Aligned
6	Language	6.7	11-16%	15.2%	Strongly Aligned
6	Reading for Informational	19.7	43-47%	45.1%	Strongly Aligned
6	Reading for Literature	17.3	36-41%	39.7%	Strongly Aligned
7	Language	6.5	11-16%	14.8%	Strongly Aligned
7	Reading for Informational	20.5	43-47%	46.6%	Strongly Aligned
7	Reading for Literature	17.0	36-41%	38.6%	Strongly Aligned
8	Language	6.5	11-16%	14.8%	Strongly Aligned
8	Reading for Informational	21.0	43-47%	47.7%	Strongly Aligned
8	Reading for Literature	16.5	36-41%	37.5%	Strongly Aligned
English II	Language	7.7	9-13%	15.1%	Strongly Aligned
English II	Reading for Informational	23.7	42-46%	46.4%	Strongly Aligned
English II	Reading for Literature	19.3	35-39%	38.2%	Strongly Aligned

### ***Depth of Knowledge (DOK)***

Table 35 shows the distribution of items by DOK for each grade level. The majority of items were aligned to DOK 2, except in grade 7 where the same percentage of items aligned to DOK 2 and DOK 3. Table 36 shows the NCDPI's intended distribution of DOK. Like math, the enacted DOK distribution tended to be higher than the intended distribution.

**Table 35: Distribution of DOK, Reading NC EOG and EOC Assessments**

Grade/Course	Number of Items	DOK 1	DOK 2	DOK 3	DOK 4
3	120	18.3%	55.0%	26.7%	0.0%
4	80	8.8%	60.0%	31.2%	0.0%
5	117	6.8%	65.8%	27.4%	0.0%
6	131	0.8%	55.7%	43.5%	0.0%
7	88	0.0%	48.9%	48.9%	2.3%
8	88	0.0%	67.0%	33.0%	0.0%
English II	152	0.0%	69.7%	29.6%	0.7%

**Table 36: Expected Distribution of DOK, Reading NC EOG and EOC Assessments**

Grade/Course	DOK 1	DOK 2	DOK 3
3	20–40%	60–80%	0%
4	12–25%	50–75%	5–10%
5	0%	75–90%	10–25%
6	0%	60–82%	18–40%
7	0%	60–82%	18–40%
8	0%	60–82%	18–40%
English II	0%	60–75%	25–40%

Table 37 shows the alignment evaluation for DOK when averaged across the three forms, including the percentage of items aligned at or above the standard's Target DOK. Here, we see that over half of the items are aligned to the Target DOK or higher in all grades. Using the evaluation criteria, all domains were judged strongly aligned. Note that the range of DOK for each standard was determined by the EdMetric expert raters.

**Table 37: Depth of Knowledge, Reading NC EOG and EOC Assessments**

Grade/Course	Domain	Average Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Language	8.3	2-2	100.0%	Strongly Aligned
3	Reading for Informational	18.0	2-3	57.7%	Strongly Aligned

Grade/ Course	Domain	Average Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Reading for Literature	13.3	2-3	82.6%	Strongly Aligned
4	Language	7.0	2-2	100.0%	Strongly Aligned
4	Reading for Informational	18.0	2-3	72.2%	Strongly Aligned
4	Reading for Literature	15.0	2-3	93.3%	Strongly Aligned
5	Language	6.3	2-2	100.0%	Strongly Aligned
5	Reading for Informational	17.0	2-3	62.7%	Strongly Aligned
5	Reading for Literature	15.0	2-3	84.4%	Strongly Aligned
6	Language	6.7	2-2	100.0%	Strongly Aligned
6	Reading for Informational	19.7	2-3	86.5%	Strongly Aligned
6	Reading for Literature	17.3	2-3	98.0%	Strongly Aligned
7	Language	6.5	2-2	100.0%	Strongly Aligned
7	Reading for Informational	20.5	2-3	92.7%	Strongly Aligned
7	Reading for Literature	17.0	2-3	91.2%	Strongly Aligned
8	Language	6.5	2-2	100.0%	Strongly Aligned
8	Reading for Informational	21.0	2-3	78.6%	Strongly Aligned
8	Reading for Literature	16.5	2-3	94.4%	Strongly Aligned
English II	Language	7.7	2-2	100.0%	Strongly Aligned
English II	Reading for Informational	23.7	2-3	83.0%	Strongly Aligned

Grade/ Course	Domain	Average Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
English II	Reading for Literature	19.3	2-3	86.7%	Strongly Aligned

### ***Range of Knowledge (ROK)***

Table 38 shows the percentage of standards within a domain covered by at least one item. Using the evaluation criteria, all domains show strong alignment for ROK in all grades.

**Table 38: Range of Knowledge, Reading NC EOG and EOC Assessments**

Grade/ Course	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
3	Language	2	100.0%	Strongly Aligned
3	Reading for Informational	5	86.7%	Strongly Aligned
3	Reading for Literature	4	75.0%	Strongly Aligned
4	Language	2	100.0%	Strongly Aligned
4	Reading for Informational	6	91.7%	Strongly Aligned
4	Reading for Literature	4	75.0%	Strongly Aligned
5	Language	2	83.3%	Strongly Aligned
5	Reading for Informational	5	86.7%	Strongly Aligned
5	Reading for Literature	5	93.3%	Strongly Aligned
6	Language	2	100.0%	Strongly Aligned
6	Reading for Informational	7	95.2%	Strongly Aligned
6	Reading for Literature	6	100.0%	Strongly Aligned
7	Language	2	100.0%	Strongly Aligned

Grade/ Course	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
7	Reading for Informational	7	100.0%	Strongly Aligned
7	Reading for Literature	6	91.7%	Strongly Aligned
8	Language	2	75.0%	Strongly Aligned
8	Reading for Informational	7	92.9%	Strongly Aligned
8	Reading for Literature	5	100.0%	Strongly Aligned
English II	Language		100.0%	Strongly Aligned
English II	Reading for Informational	7	81.0%	Strongly Aligned
English II	Reading for Literature	6	100.0%	Strongly Aligned

### ***Balance of Representation (BOR)***

Table 39 shows moderate to strong alignment for BOR in most domains, with the exception of weak alignment for Language in grade 8.

**Table 39: Balance of Representation, Reading NC EOG and EOC Assessments**

Grade/ Course	Domain	Average Number of Items	BOR	Alignment Evaluation
3	Language	8.3	0.98	Strongly Aligned
3	Reading for Informational	18.0	0.72	Strongly Aligned
3	Reading for Literature	13.3	0.72	Strongly Aligned
4	Language	7.0	0.73	Strongly Aligned
4	Reading for Informational	18.0	0.72	Strongly Aligned
4	Reading for Literature	15.0	0.63	Moderately Aligned
5	Language	6.3	0.69	Moderately Aligned

Grade/ Course	Domain	Average Number of Items	BOR	Alignment Evaluation
5	Reading for Informational	17.0	0.78	Strongly Aligned
5	Reading for Literature	15.0	0.73	Strongly Aligned
6	Language	6.7	0.83	Strongly Aligned
6	Reading for Informational	19.7	0.74	Strongly Aligned
6	Reading for Literature	17.3	0.84	Strongly Aligned
7	Language	6.5	0.73	Strongly Aligned
7	Reading for Informational	20.5	0.91	Strongly Aligned
7	Reading for Literature	17.0	0.73	Strongly Aligned
8	Language	6.5	0.56	Weakly Aligned
8	Reading for Informational	21.0	0.79	Strongly Aligned
8	Reading for Literature	16.5	0.87	Strongly Aligned
English II	Language	7.7	0.81	Strongly Aligned
English II	Reading for Informational	23.7	0.71	Strongly Aligned
English II	Reading for Literature	19.3	0.78	Strongly Aligned

### **Overall Summary for the Reading**

Table 40 shows the alignment results for the test forms. Overall, the domains appear to be strongly aligned in all grades. There was one exception in grade 8 Language, which was moderately aligned.<sup>1</sup>

---

<sup>1</sup> EdMetric content experts noted that items assessing vocabulary could be aligned to Reading for Literature Standard 4, Reading for Informational Text Standard 4, or Language Standards 4 or 5a, depending on context.



For item-level alignment results, see Appendix I; for form-level alignment results, see Appendix J.

**Table 40: Evaluation Summary, Reading NC EOG and EOC Assessments**

Grade/ Course	Domain	Categorical Concurrence	DOK Evaluation	ROK Evaluation	BOR Evaluation	Overall Evaluation
3	Language	Moderately Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
3	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
3	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
4	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
5	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Moderately Aligned	Strongly Aligned
5	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
5	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
6	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
6	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
6	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
7	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
7	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
7	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
8	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Weakly Aligned	Moderately Aligned
8	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned

Grade/ Course	Domain	Categorical Concurrence	DOK Evaluation	ROK Evaluation	BOR Evaluation	Overall Evaluation
8	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
English II	Language	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
English II	Reading for Informational	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned
English II	Reading for Literature	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned	Strongly Aligned

## Section 7. Discussion

---

Overall, there appeared to be moderate to strong alignment across all grade-level domains within both content areas. In general, the North Carolina mathematics and reading tests appeared to be well-aligned to the North Carolina standards as operationalized by the test blueprints; however, there were identified areas for further consideration.

There does appear to be evidence that the educators assigned items to the same domain but different standards in certain grade content areas. NCDPI may want to investigate metadata assignments in:

- Grade 6 Statistics and Probability
- High School NC Math 3 Functions

The distribution of enacted DOKs is interesting when compared to the intended DOK distribution and the percentage of items at or above the standard's target DOK, assigned by EdMetric content experts. The items appear to align to the standard's target DOK, but the intended DOK distribution appears to call for lower complexity items than currently enacted. NCDPI may want to investigate the intended DOK distributions to see if they should be shifted to require more complex DOKs. NCDPI may want to investigate the panelist DOK ratings to see if those ratings are consistent with the department's definition of cognitive complexity. (Note that DOK ratings were not available in the metadata).

The results of the ROK and BOR analyses suggest that additional items are needed for grade 6 Statistics and Probability and high school NC Math 3 Functions.

Detailed alignment results are provided to support NCDPI decision making at the item level (Appendix I) and form level (Appendix J).

### Recommendations

EdMetric recommends development of items in three categories based only on the panelist alignments. Note that we did not investigate this in terms of the original metadata.

If NCDPI were to develop new items, we suggest the following:

- In grade 6, develop five items to cover Statistics and Probability standards not current covered (SP.3.b, SP.4, SP.5.a, SP.5.b). This would result in 20 new items (5 items x 4 standards).
- In high school NC Math 3, develop five items to cover Functions standards not currently covered (BF.1.a, BF.1.b, BF.4.a, BF.4.b, BF.4.c, IF.4, IF.9, LE.3, TF.1, TF.2a, TF.2b). This would result in 55 new items (5 items x 11 standards).

### Conclusions

Overall, alignment was considered moderate to strong across the test forms with some specific areas identified for improvement and future item development. Returning to the purposes that guided this work:

- (a) investigate the alignment of the EOG/EOC assessments to the breadth and depth of the North Carolina *Standard Course of Study* as operationalized by the test blueprint, and
- (b) investigate the alignment of the EOG/EOC assessments to the breadth and depth of the North Carolina *Standard Course of Study*.

There is ample evidence of alignment in terms of categorical concurrence, range, complexity, and breadth between the items and the assessable North Carolina content standards in

almost all grades and content areas. Some work is needed to ensure the breadth of the North Carolina content standards are covered in grade 6 Statistics and Probability, high school NC Math 3 Functions, and Language in grade 8. Even here, there is strong evidence of alignment in terms of categorical concurrence, range, and complexity between the NC EOG and EOC Assessments items and the assessable North Carolina content standards.

## Section 8. Validity Evidence

---

Evidence from this alignment study supports the validity argument for the use of the NC EOG and EOC assessments as a measure of the North Carolina content standards by addressing relevant portions of the *Standards for Educational and Psychological Testing* (AERA, NCME, & APA, 2014). Specifically, the study provides evidence to support Standard 1.11 which states:

When rationale for test score interpretation for a given use rests in part on the appropriateness of test content, the procedures followed in specifying and generating test content should be described and justified with reference to... the construct the test is intended to measure or the domain it is intended to represent.

Evidence for Standard 1.1 should therefore demonstrate adequate representation of the construct, specifically alignment between the NC EOG and EOC assessments and the North Carolina content standards in terms of content, balance of content, cognitive complexity, and coverage of the depth and breadth of the state's standards. Results of this study support the argument that the NC EOG and EOC assessments test forms, as they are described in the table of test specifications (i.e., blueprint), address these requirements by demonstrating some degree of alignment (Table 25 and Table 34). In terms of procedural evidence, the study was designed and implemented to include relevant experts external to the test program itself. Standard 4.6 states:

When appropriate to documenting the validity of test score interpretations for intended uses, relevant experts external to the testing program should review the test specifications to evaluate their appropriateness for intended uses of the test scores... The purpose of the review, the process by which the review is conducted, and the results of the review should be documented. The qualifications, relevant experiences, and demographic characteristics of the expert judges should also be documented.

The study purpose, process, and results as well as the qualifications, experiences, and demographic characteristics of all expert reviewers are captured in this technical report (see Section 3).

Finally, Standard 12.4 states:

When a test is used as an indicator of achievement in an instructional domain or with respect to specified content standards, evidence of the extent to which the test samples the range of knowledge and elicits the processes reflected in the target domain should be provided. Both the tested and the target domains should be described in sufficient detail for their relationship to be evaluated. The analyses should make explicit those aspects of the target domain that the test represents, as well as those aspects that the test fails to represent.

This alignment study provides evidence to support the claim that the NC EOG and EOC assessment test forms, as represented by the test blueprints, represent both the NC EOG and EOC assessment content standards and the intended uses and interpretations of the test. However, an analysis of alignment ratings did identify some areas in need of improvement across grades and alignment criteria. These areas are discussed in Section 7.

## References

---

- American Educational Research Association (AERA), the American Psychological Association (APA), and the National Council on Measurement in Education (NCME) Joint Committee on Standards for Educational and Psychological Testing. (2014). *Standards for educational and psychological testing*. Washington DC: AERA.
- Cizek G. J., Kosh A. E., & Toutkoushian E. K. (2018). Gathering and evaluating validity evidence: The generalized assessment alignment tool. *Journal of Educational Measurement*, 55, 477–512.
- Graham, M., Milanowski, A., & Miller, J. (2012). *Measuring and promoting inter-rater agreement of teacher and principal performance ratings*. Center for Educator Reform: Westat. Available at <https://files.eric.ed.gov/fulltext/ED532068.pdf>.
- North Carolina Department of Public Instruction. (2019). *Standard Course of Study*. Available at <https://www.dpi.nc.gov/districts-schools/classroom-resources/academic-standards/standard-course-study>.
- Rotham, R., Slattery, J.B., Vranek, J., & Resnick, L.B. (2002). Benchmarking and alignment of standards and testing. CRESST/Learning Research and Development Center, University of Pittsburgh.
- Russell, M., & Moncaleano, S. (2020). Examining the impact of a consensus approach to content alignment studies. *Practical Assessment, Research, and Evaluation*, 25 (4). DOI: <https://doi.org/10.7275/5na1-gk87>.
- Subkoviak, M. J. (1988). A practitioner's guide to computation and interpretation of reliability indices for mastery tests. *Journal of Educational Measurement*, 25 (1), pp. 47-55.
- Webb, N. L. (1997). *Criteria for alignment of expectations and assessments in mathematics and science education* (Council of Chief State School Officers and National Institute for Science Education Research Monograph No. 6). Madison: University of Wisconsin, Wisconsin Center for Education Research.
- Webb, N. L. (1999). *Alignment study in language arts, mathematics, science, and social studies of state standards and assessments for four states*. Washington, DC: Council of Chief State School Officers.
- Webb, N. L. (2007). Issues related to judging the alignment of curriculum standards and assessments. *Applied Measurement in Education*, 20(1), 7-25.

## **Appendix A – Design Document**

# **Design Document**

## **Study of the Alignment of the North Carolina Content Standards and Extended Standards with the End-of-Grade (K-8) and End-of-Course (High School) Assessments**

**Revised: November 4, 2022**

**Finalized: December 22, 2022**





## Table of Contents

<b>TABLE OF CONTENTS</b>	<b>1</b>
<b>LIST OF TABLES</b>	<b>2</b>
<b>LIST OF FIGURES</b>	<b>2</b>
<b>SECTION 1. OVERVIEW</b>	<b>3</b>
BACKGROUND	3
STUDY CLAIMS	3
DOCUMENT PURPOSE	4
<b>SECTION 2. METHODOLOGY OVERVIEW</b>	<b>5</b>
APPROACH RATIONALE	5
ALIGNMENT STUDY PHASES	6
<i>Content Standards</i>	6
<i>Assessment Items</i>	7
EXPERT REVIEW	9
EVALUATION CRITERIA FOR GENERAL ASSESSMENTS	10
<i>Content Match: Categorical Concurrence</i>	10
<i>Cognitive Complexity</i>	10
<i>Range of Knowledge</i>	11
<i>Balance of Knowledge</i>	11
EVALUATION CRITERIA FOR ALTERNATE ASSESSMENTS	12
<i>Cognitive Complexity</i>	12
<b>SECTION 3. ROLES AND RESPONSIBILITIES</b>	<b>13</b>
PANELIST RECRUITMENT	13
NCDPI STAFF	13
WORKSHOP ROLES AND RESPONSIBILITIES	14
<b>SECTION 4. WORKSHOP IMPLEMENTATION</b>	<b>15</b>
PRIOR TO THE WORKSHOP	15
<i>Workshop Site Development</i>	15
<i>Online Orientation Webinar</i>	15
<i>Panelist Registration</i>	15
IN-PERSON ALIGNMENT WORKSHOP	15
<i>Opening Session and Training Overview</i>	16
<i>Alignment Tools</i>	17
<i>Round Process</i>	17
<i>Workshop Monitoring</i>	18
EVALUATION SURVEY	18
<i>Readiness Survey</i>	18
<i>Final Evaluations</i>	18
DATA MANAGEMENT & SECURITY	18
CAPTURING RESULTS	18
<b>SECTION 5. TECHNICAL REPORT</b>	<b>19</b>
<b>REFERENCES</b>	<b>20</b>

## List of Tables

TABLE 1. SUMMARY OF ITEM COUNTS BY ASSESSMENT	5
TABLE 2. SUMMARY OF OPERATIONAL ITEMS IN THE NORTH CAROLINA ITEM BANK	8
TABLE 3. DISTRIBUTION OF ITEMS FOR READING, EOG/EOC	9
TABLE 4. DISTRIBUTION OF ITEMS FOR MATHEMATICS, EOG/EOC	9
TABLE 5. DISTRIBUTION OF ITEMS FOR ELA, MATHEMATICS, & SCIENCE, NCEXTEND1	9
TABLE 6. CATEGORICAL CONCURRENCE EVALUATION RULES	10
TABLE 7. GENERAL ASSESSMENT COGNITIVE COMPLEXITY EVALUATION RULES	10
TABLE 8. RANGE OF KNOWLEDGE EVALUATION RULES	11
TABLE 9. BALANCE OF KNOWLEDGE EVALUATION RULES	11
TABLE 10. ALTERNATE ASSESSMENT COGNITIVE COMPLEXITY EVALUATION RULES	12
TABLE 11. SUGGESTED PANEL COUNT CONFIGURATION	13
TABLE 12. WORKSHOP STAFF	14
TABLE 13. HIGH-LEVEL WORKSHOP AGENDA	16

## List of Figures

FIGURE 1. OUTTAKE OF THE CONTENT STANDARDS	7
FIGURE 2. OUTTAKE OF THE EXTENDED CONTENT STANDARDS	7
FIGURE 3. PROPOSED TABLE OF CONTENTS OF ALIGNMENT TECHNICAL REPORT	19

## Section 1. Overview

North Carolina Department of Public Instruction (NCDPI) contracted with EdMetric LLC (EdMetric) to conduct an independent alignment study of new content standards with assessments in grades 3–8 and high school. Specifically, the study will examine alignment relationships related to:

- North Carolina Standard Course of Study (content standards) and the End-of-Grade (EOG) assessments in mathematics and reading for grades 3–8
- North Carolina content standards and the End-of-Course (EOC) assessments for NC Math 1, NC Math 3, and English II for high school
- North Carolina extended content standards and the NCEXTEND1 alternate assessments in mathematics and reading for grades 3–8
- North Carolina extended content standards and the NCEXTEND1 alternate assessments in NC Math 1, English II, and Biology for high school
- North Carolina extended content standards and the NCEXTEND1 alternate assessments in science for grade 5 and grade 8.

## Background

Alignment is an oft-used word in education, and alignment studies are a critical element of a validity argument (AERA, APA & NCME, 2014). Assessment alignment refers specifically to the connection between the assessment and the content standards as operationalized through the test blueprint. We expect that students taking well-aligned assessments are measured on the content standards with the breadth and depth expected by the test blueprints. For this reason, this study will be designed to evaluate degree of match between content standards and assessment items at two levels:

- Intended blueprint
- Enacted blueprint

According to the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014), the evaluation of an assessment system must include alignment evidence. The broadest intent of this study is to provide an independent evaluation of the degree of alignment between the assessments and the State’s academic content standards. The results of the alignment study will provide validity evidence that the items measure the underlying content standards. To the degree that they do, we find support for the claims that the assessment measures the intended construct. The results of the study will therefore contribute to the validity evidence gathered by NCDPI to demonstrate the degree of alignment between the assessments and the standards for state and federal accountability purposes.

## Study Claims

States are required to demonstrate the alignment of their assessments with their academic content and achievement standards under the Every Student Succeeds Act (ESSA; United States Department of Education, 2017). In the context of a comprehensive system of academic content standards and assessments, the items on the assessments must allow students to demonstrate their knowledge and skills on the academic content standards. From this, the following claims may be articulated:

- *The items in the End-of-Grade/End-of-Course assessments align to the breadth and depth of the North Carolina Standard Course of Study.*
- *The items in the North Carolina alternate assessments align to the breadth and depth of the North Carolina Extended Content Standards.*

The study will evaluate these claims.

## Document Purpose

This document describes the design of the alignment study of the EOG and EOC assessments to the North Carolina Standard Course of Study standards for each specific grade and content area. The purpose of this design document is to guide the organization and implementation of the study. The design document outlines the rationale for the study methodology and provides implementation details and recommendations. EdMetric will lead the workshop to collect data for the study. Section 1 provides an overview of the study plan. Section 2 summarizes the planned methodology for the study. Section 3 provides information on the roles and responsibilities of those who will participate in the study as well as information regarding panelists. Section 4 describes the planned workshop. Section 5 overviews the technical report.

## Section 2. Methodology Overview

A modified Webb (1997, 1999, 2007) approach will be used for EOG/EOC alignment. An approach that combines Links for Academic Learning (LAL; Flowers, Wakeman, Browder, & Karvonen, 2007) and a modified Webb methodology will be used for the NCEXTEND1. Panelist responses will be used to determine the degree of alignment between items and the underlying North Carolina reading, mathematics, and science content standards as represented in the performance expectations. Alignment will be measured using the following categories:

- Categorical concurrence
- Depth-of-knowledge consistency
- Range-of-knowledge correspondence (which measures the enacted blueprint relative to the intended blueprint)
- Balance of knowledge

North Carolina's assessment blueprints will be used to review coverage of the full range of the content, and to ensure adequate balance of knowledge.

A two-day alignment workshop will be conducted where 40 educators will align the EOG/EOC assessments to the North Carolina Standard Course of Study. Another 20 North Carolina stakeholders will align the NCEXTEND1 alternate assessments to the North Carolina extended content standards. In total, 2229 items will be evaluated in the study across assessments and content areas (Table 1).

*Table 1. Summary of Item Counts by Assessment*

Assessment	Content Area	Totals
EOG/EOC	Reading	781
	Math	1015
NCEXTEND1	Reading	168
	Math	190
	Science	75
	<b>Total</b>	<b>2229</b>

### Approach Rationale

Alignment studies have routinely used Webb's (1997, 1999) criteria to establish defensible claims of alignment. Webb (1997) discussed the importance of studying the alignment of the knowledge structures, and even student dispositional expectations, as well as the articulation of content across grade levels and age groups. Webb (2007) prioritized these criteria, calling out (a) categorical concurrence, (b) depth-of-knowledge consistency, (c) range-of-knowledge correspondence, and (d) balance of representation. We will also be using the six-level LAL scale for cognitive complexity of the NCEXTEND1 with attention to Webb and Christopherson (2019) for the science content.

## Alignment Study Phases

The alignment study will be conducted in phases.

- **Pre-Work (Phase 1)** - Our proposed design seeks to ease the complexity and to increase efficiency of the panelists' task by having all items first rated for cognitive complexity and alignment by content/alignment experts. Our experience is that the use of initial ratings provides panelists with a starting point they can react to, which eases the cognitive load of the task and decreases the initial amount of time panelists spend in understanding the rating task.
- **Educator Workshop (Phase 2)** - EdMetric will conduct an in-person alignment workshop involving North Carolina educators. In the two-day workshop, these stakeholders will review each operational item. They will decide if they agree or disagree with the initial ratings of the content expert. If they disagree with any aspect of the initial rating, we will ask them to indicate this in EdMetric's alignment tool. North Carolina educators will have the final determination on item ratings.
- **Analyses and Reporting (Phase 3)** - During the third phase, EdMetric will analyze the alignment data for interrater reliability, categorical concurrence, depth of knowledge, breadth of knowledge, and range of knowledge. In addition, EdMetric will prepare a detailed technical report of the workshop and the study results.

## Content Standards

For the purposes of this study, the following nomenclature will be applied to describe the levels of the standards used as the units of analysis:

- **Domain**
- **Standard**

Figure 1 illustrates the application of this nomenclature using an example from the Grade 3 EOG mathematics standards.

Operations and Algebraic Thinking	
<b>Represent and solve problems involving multiplication and division.</b>	
NC.3.OA.1	For products of whole numbers with two factors up to and including 10: <ul style="list-style-type: none"> <li>Interpret the factors as representing the number of equal groups and the number of objects in each group.</li> <li>Illustrate and explain strategies including arrays, repeated addition, decomposing a factor, and applying the commutative and associative properties.</li> </ul>
NC.3.OA.2	For whole-number quotients of whole numbers with a one-digit divisor and a one-digit quotient: <ul style="list-style-type: none"> <li>Interpret the divisor and quotient in a division equation as representing the number of equal groups and the number of objects in each group.</li> <li>Illustrate and explain strategies including arrays, repeated addition or subtraction, and decomposing a factor.</li> </ul>
NC.3.OA.3	Represent, interpret, and solve one-step problems involving multiplication and division. <ul style="list-style-type: none"> <li>Solve multiplication word problems with factors up to and including 10. Represent the problem using arrays, pictures, and/or equations with a symbol for the unknown number to represent the problem.</li> <li>Solve division word problems with a divisor and quotient up to and including 10. Represent the problem using arrays, pictures, repeated subtraction and/or equations with a symbol for the unknown number to represent the problem.</li> </ul>
<b>Understand properties of multiplication and the relationship between multiplication and division.</b>	
NC.3.OA.6	Solve an unknown-factor problem, by using division strategies and/or changing it to a multiplication problem.
<b>Multiply and divide within 100.</b>	
NC.3.OA.7	Demonstrate fluency with multiplication and division with factors, quotients and divisors up to and including 10.

1

*Figure 1. Outtake of the Content Standards*

Figure 2 illustrates the application of this nomenclature using an example from the Extended Content Standards.

Grade 4

NC Standard Course of Study and Extended Content Standards English Language Arts (ELA) Alignment Grade 4			
NC Standard Course of Study K-12 ELA for Implementation in 2018-2019, Adopted April 2017		Extended Content Standards K-12 for ELA for Implementation 2018-19, Adopted June 2017	
READING: LITERATURE			
Abbreviation	Standard	Abbreviation	Standard
CCR Anchor Standard R.1 – Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.			
RL.4.1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	RL.4.1	Use details from the text to recount what the text says.
CCR Anchor Standard R.2 – Determine central ideas (RI) or themes (RL) of a text and analyze their development; summarize the key supporting details and ideas.			
RL.4.2	Determine a theme of a story, drama, or poem from details in the text; summarize the text.	RL.4.2	Identify the theme of a familiar story, drama or poem.
CCR Anchor Standard R.3 – Analyze how and why individuals, events, and ideas develop and interact over the course of a text.			
RL.4.3	Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text.	RL.4.3	Use details from the text to describe characters in the story.

*Figure 2. Outtake of the Extended Content Standards*

### Assessment Items

In a typical alignment study, stakeholder (i.e., panelist) ratings are used to calculate alignment statistics (e.g., range of knowledge, breadth of knowledge, depth of knowledge). For the general assessments, panelists will be trained on the alignment process using 10 items, and will rate an

additional 30 items during a calibration round. Once panelists rate all 30 items, they will discuss those items where 50% or more disagreed on the item rating. Following calibration, the panelists will move to another set of 30 common items (called validation items). They will repeat the process with the validation items. The intention of these 70 items is to build common understanding among the panelists and to ensure the panelists are approaching the alignment task with similar understanding of each facet (e.g., cognitive complexity) of the study.

Once panelists have completed the study of the 70 items, they will move to their unique sets of items. Remaining items for the grade band will be distributed among the panelists until the entire item bank for the grade band has been reviewed. (See Table 3, Table 4, and Table 5 for a detailed descriptions of item distributions.) Because EdMetric has our content/alignment experts conduct the initial review, all items will have two sets of independent ratings.

For the alternate assessments, panelists in each grade group will be trained using a common set of 10 items, and the remaining items for the grade band across all content areas will be distributed among the panelists in that grade group. Again, because EdMetric content experts will conduct an initial review, all items will have two sets of independent ratings.

Table 2 shows the item bank includes 781 Reading items; 1,015 mathematics items; and 433 alternate assessment items.

***Table 2. Summary of Operational Items in the North Carolina Item Bank***

Grade	General		Alternate		
	Reading	Math	Reading	Math	Science
3	120	120	24	27	
4	80	120	24	27	
5	120	120	24	27	25
6	132	135	24	27	
7	88	135	24	27	
8	88	135	24	27	25
HS	153	250	24	28	25
Total	781	1015	168	190	75

All items will be reviewed in this study. To do this with efficiency, we will distribute these items as follows: 10 training items (5 from each grade), 30 calibration items (15 from each grade), and 30 validation items (15 from each grade). The remaining items will be evenly split among the five panelists in the grade group.

Table 3 and Table 4 show how items will be distributed across panelists for ELA and mathematics, respectively. So that all of the items have at least two independent ratings, panelists will first work in groups and then move to individual work. For the alternate assessments, the same panel will analyze all three content area tests from two grade levels. Table 5 shows how the items will be distributed across panelists.

***Table 3. Distribution of Items for Reading, EOG/EOC***



Grade	Items	Training	Calibration & Validation	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Panelist 5
3-4	200	10	60	26	26	26	26	26
5-6	252	10	60	37	37	36	36	36
7-8	176	10	60	22	21	21	21	21
HS	153	10	60	17	17	17	16	16

*Table 4. Distribution of Items for Mathematics, EOG/EOC*

Grade	Items	Training	Calibration & Validation	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Panelist 5
3-4	240	10	60	34	34	34	34	34
5-6	255	10	60	37	37	37	37	37
7-8	270	10	60	40	40	40	40	40
HS	250	10	60	36	36	36	36	36

*Table 5. Distribution of Items for ELA, Mathematics, & Science, NCEXTEND1*

Grade	Items	Training	Calibration & Validation	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Panelist 5
3-4	102	10	40	11	11	10	10	10
5-6	127	10	40	16	16	15	15	15
7-8	127	10	40	16	16	15	15	15
HS	77	10	40	6	6	5	5	5

## Expert Review

EdMetric content/alignment experts will conduct an initial alignment evaluation of the EOG/EOC items to the North Carolina content standards and the EXTEND1 items to the North Carolina extended content standards. One expert will assign ratings to each grade level and content area. This design is intended to ease the complexity and to increase efficiency of the panelists' task by having all items first rated for cognitive complexity and alignment by content experts. The use of initial ratings provides panelists with a starting point they can react to, which seems to ease the cognitive load of the task and to decrease the initial amount of time panelists spend in understanding the rating task.

## Evaluation Criteria for General Assessments

### *Content Match: Categorical Concurrence*

Categorical concurrence refers to how similar and consistent content is on the standards and on the assessment. Reviewers' alignment judgments (e.g., full, partial, none) will be used to establish the number of items assigned to a standard. Webb requires six items per performance level in order to consider the standard fully addressed. Each assessment will be evaluated for alignment in terms of its respective blueprint at the item bank level and at the test event level. To do so, the percentage of items assigned to each domain will be compared to the assessment blueprint, as described in Table 6.

*Table 6. Categorical Concurrence Evaluation Rules<sup>1</sup>*

Concurrence of percent of items measuring the Domain to the test blueprint Domain target	Evaluation
$\leq 5\%$	Strongly Aligned
$> 5\%$ and $\leq 10\%$	Moderately Aligned
$> 10\%$ and $\leq 15\%$	Weakly Aligned
$<10\%$	Not Aligned

### *Cognitive Complexity*

For the EOG and EOC assessments, we will use Webb's depth of knowledge (DOK) rating to measure the cognitive complexity. With the DOK assignment, the review panels judge cognitive complexity to support the development of assessments of similar levels of cognitive complexity. For this evaluation, Webb's (1997, 1999) DOK criteria will be used to judge alignment (see Table 7).

*Table 7. General Assessment Cognitive Complexity Evaluation Rules*

Percent of items corresponding to a Standard at or above the complexity level (e.g., DOK) of the Standard	Evaluation
$\geq 50\%$	Strongly Aligned
$\geq 40\%$ and $< 50\%$	Moderately Aligned
$\geq 30\%$ and $< 40\%$	Weakly Aligned
$<30\%$	Not Aligned

---

<sup>1</sup> The evaluation levels for Categorical Concurrence and other Webb review categories are derived from Webb's recommendations with the concurrence of content/alignment experts. They are considered challenging but attainable and have the extra benefit of meeting the approval of the USED peer review process.

### Range of Knowledge

The range of knowledge (ROK) examines the extent to which test forms cover the standards (Webb, 1997, 1999), measuring the enacted blueprint relative to the intended blueprint. Table 8 summarizes the evaluation rules that will be used to evaluate ROK alignment.

**Table 8. Range of Knowledge Evaluation Rules**

Percent of Standards for a given Domain that have an associate item	Evaluation
<b><math>\geq 50\%</math></b>	Strongly Aligned
<b><math>\geq 40\%</math> and <math>&lt; 50\%</math></b>	Moderately Aligned
<b><math>\geq 30\%</math> and <math>&lt; 40\%</math></b>	Weakly Aligned
<b><math>&lt; 30\%</math></b>	Not Aligned

### Balance of Knowledge

Balance of knowledge (BOK) is a measure of how items are distributed across the standards. This alignment criterion examines whether the number of test items matched to a domain is proportional to the number of standards within that domain, as indicated in the test blueprint. For this, a Webb (1999) index score is computed for each domain. The BOK is computed as:

$$BoK = 1 - \left( \frac{\left( \sum \left| \frac{1}{B} - \frac{I_K}{H} \right| \right)}{2} \right)$$

where  $B$  is the total number of items within the domain,  $I_K$  is the number of items aligned to each standard ( $K$ ), and  $H$  is the total number of items aligned to the standard. Table 9 summarizes the rules that will be used to evaluate BOK alignment.

**Table 9. Balance of Knowledge Evaluation Rules**

BOK Index	Evaluation
<b><math>\geq 0.70</math></b>	Strongly Aligned
<b><math>\geq 0.60</math> and <math>&lt; 0.70</math></b>	Moderately Aligned
<b><math>\geq 0.50</math> and <math>&lt; 0.60</math></b>	Weakly Aligned
<b><math>&lt; 0.50</math></b>	Not Aligned

## Evaluation Criteria for Alternate Assessments

Categorical concurrence, ROK, and BOK will be computed in the same way as described for the general assessment. Cognitive complexity will be measured differently for the alternate assessment. This is described below.

### Cognitive Complexity

With the DOK assignment, the panelists will investigate the complexity of the items. The items in the item pool should have the same cognitive rigor as what is expected by the standards. There are different options for rating DOK for the NCEXTEND1. In K–12 assessment, Webb’s (1997, 1999) DOK or variations (Hess, et al., 2009) are typically used for alignment studies. However, these approaches are not considered viable options for NCEXTEND1 because the lowest threshold of cognitive complexity in these models does not fully describe the range in the target population.

We recommend the LAL (Flowers, et al., 2007) DOK definition and codes for the alignment study. The LAL has a developmental component within the definition of cognitive complexity that is appropriate to the target population. The six-level coding scheme is reasonable for alignment raters and practitioners in the field to distinguish levels of cognitive complexity within alternate assessments. It incorporates a range of DOK that can be aligned to the standards. Furthermore, the LAL approach is consistent with other alternate assessments and has been applied in other alignment evaluations.

Each extended content standard will be assigned a DOK level by educators. Each item will be assigned a LAL level. (Note that the DOK-to-item assignment is independent of the DOK of the extended content standard.) Once data are collected, EdMetric will examine the DOK consistency of the item pool to the indicators within each blueprint reporting category.

For this evaluation, we will use evaluation criteria to meet the needs of the student population in the context of NCEXTEND1 (Table 10). For Webb (1999), at least 50% of the items corresponding to a reporting category must be at or *above* the DOK level of the indicators within each reporting category in order for the criterion to be strongly met. For the alternate, the expected relationship between DOK targets and items will reflect access as well as challenge, and will necessarily be adjusted to 50% at or *below*.

**Table 10. Alternate Assessment Cognitive Complexity Evaluation Rules**

Percent of items corresponding to a Standard at or below complexity level (e.g., LAL DOK) of the Standard	Evaluation the
$\geq 50\%$	Strongly Aligned
$\geq 40\%$ and $< 50\%$	Moderately Aligned
$\geq 30\%$ and $< 40\%$	Weakly Aligned
$< 30\%$	Not Aligned

## Section 3. Roles and Responsibilities

Following the expert review, 60 educators will be convened in an in-person workshop. An online orientation webinar will precede this workshop.

### Panelist Recruitment

For the proposed alignment study, we recommend that 60 North Carolina educators be recruited for the 12 grade-span panels. Each panel for the general assessments should include at least three grade-level content teachers, one teacher of English Learners (EL), and one special educator. Each panel for the alternate assessment should include special education teachers and at least one grade-level general education teacher.

Table 11 shows the suggested panel configuration for the study. The special educators should have strong knowledge of the North Carolina extended content standards, and the classroom teachers should have strong knowledge of North Carolina's content standards. Ideally, some teachers will be cross-certified and have experience with multiple sets of standards.

*Table 11. Suggested Panel Count Configuration*

End-of-Grade/End-of-Course			NCEXTEND1 End-of-Grade/End-of-Course
Grade Levels	ELA	Math	ELA/Math/Science
3-4	5	5	5
5-6	5	5	5
7-8	5	5	5
HS	5	5	5
<b>Total</b>	<b>20</b>	<b>20</b>	<b>20</b>

EdMetric will outline panelist requirements and work with NCDPI to recruit panelists from a list supplied by NCDPI. We will look to NCDPI for guidance on the parameters that we should consider when recruiting teachers to best support the claim we are evaluating (e.g., region of state, school type, panelist demographics, etc.).

### NCDPI Staff

A member of NCDPI should welcome panelists during the opening session of the workshop. In addition, NCDPI staff should be available throughout the workshop to answer policy-related questions.

## Workshop Roles and Responsibilities

Various roles and responsibilities must be covered to address the requirements of an alignment study with fidelity, including lead facilitator and content area facilitators. Table 12 designates staff and specifies each person's role in the study.

*Table 12. Workshop Staff*

Staff	Role	Responsibility
Dr. Karla Egan	Workshop Lead	Dr. Egan will design the workshop. She will provide workshop oversight and answer panelist questions. She will also provide room support for the content areas.
Dr. Anne Davidson	Workshop Co-facilitator	Dr. Davidson will provide support for all content areas during the workshop.
Dr. Stanley Rabinowitz	Technical Advisor	Dr. Rabinowitz will provide support for all content areas during the workshop.
Michael Brown	Content Area Lead	Mr. Brown will serve as the content area lead for the math group.
Susan Schepp	Content Area Lead	Ms. Schepp will serve as the content area lead for the NCEXT1 group.
Gretchen Schultz	Content Area Lead	Ms. Schultz will serve as the content area lead for the ELA group.

## Section 4. Workshop Implementation

This section details the planned study implementation using an in-person workshop format.

### Prior to the Workshop

#### *Workshop Site Development*

EdMetric will create a Moodle site for all workshop panelists that will serve as a centralized browser-based location for all workshop materials. This site allows us to control logins to workshop hours. It also allows each panelist to maintain a separate login.

#### *Online Orientation Webinar*

Prior to the in-person alignment workshop, EdMetric will schedule an online orientation webinar to provide participants with an overview of the purpose of the alignment study, a discussion of roles and responsibilities, and a review of the materials participants will use during the workshop (e.g., standards documents, assessments, information on DOK). Alignment” is not a concept that most educators grapple with on a daily basis. An orientation webinar will help familiarize participants with the alignment study’s purpose, materials, and processes.

#### *Panelist Registration*

Panelists will register for the workshop using Google Forms. Prior to the workshop, all panelists will be asked to sign a non-disclosure agreement and agree to the confidentiality of all test content and study materials. If panelists will not sign a non-disclosure agreement, they will be replaced.

### In-Person Alignment Workshop

EdMetric will conduct the alignment workshop involving North Carolina educators. Participants will build on the Phase I work to complete alignment ratings for all items. Dr. Egan will kick off the meeting with general training, including a brief session on Webb’s depth of knowledge and content complexities. Following the general training, panelists will divide into small groups and work through a set of 10 training items specific to their assessment. Panelists will take a brief online survey to gauge their level of understanding of the process, as well as to identify areas of confusion or concern. Once questions are addressed, the panelists will begin their alignment work.

Each panel will have access to NCDPI TMS staff who will participate as observers and, if needed, for explanation of content standards and DOKs.

When more than 50% of the panelists in a given group disagree with the initial item rating (e.g., standard, cognitive complexity), the item will be flagged. Panelists will discuss all flagged items prior to making a final recommendation. The panelists’ ratings will always be given precedence when panelists disagree with the initial rating.

In the proposed meeting, panelists will participate in at least two rounds of discussion to talk about areas of disagreement in their alignment work. Panelists will be encouraged (but not forced) to come to a joint agreement during the meeting if possible. The workshop will conclude with a participant evaluation that will contribute to the overall validity of the alignment process and the use of the

assessments in the context of North Carolina’s statewide assessment system. Table 13 shows a high-

**Table 13. High-level Workshop Agenda**

Time	Activities
<b>DAY 1</b>	
<b>8:30 a.m.</b>	<ul style="list-style-type: none"> <li>• Workshop opening session</li> <li>• Rate training items</li> <li>• Complete <i>Readiness Survey</i></li> <li>• Rate calibration items independently</li> </ul>
<b>12:00 p.m.</b>	<i>Lunch break</i>
<b>12:30 p.m.</b>	<ul style="list-style-type: none"> <li>• Discuss disagreements of calibration items as a group</li> <li>• Rate calibration items a final time</li> </ul>
<b>5:00 p.m.</b>	<i>Adjourn for the day</i>
<b>DAY 2</b>	
<b>8:30 a.m.</b>	<ul style="list-style-type: none"> <li>• Rate validation items independently</li> <li>• Discuss disagreements as a group</li> <li>• Rate validation items a final time</li> </ul>
<b>12:00 p.m.</b>	<i>Lunch break</i>
<b>12:30 p.m.</b>	<ul style="list-style-type: none"> <li>• Individual ratings</li> <li>• Complete <i>Final Evaluation</i></li> </ul>
<b>5:00 p.m.</b>	<i>Adjourn</i>

### **Opening Session and Training Overview**

EdMetric trains panelists in multiple ways during the workshop. In this section, we cover each training component.

- **Pre-training.** Prior to the in-person meeting, participants will join a short online session to orient them to the alignment study process and materials.
- **Large-group training.** Immediately following welcome from NCDPI, EdMetric staff will provide an overview of alignment and why it is important.



We will walk through the concepts introduced at the pre-training session. One tool that we have found very useful in explaining alignment is the humble Venn diagram. Panelists have commented that the tool in Figure 2 provided an “aha” moment during alignment training.

- **Small-group practice.** Once panelists are in their small groups, our facilitators will introduce the alignment tool and guide the panelists through the first five standards. This allows panelists to immediately practice the concepts that they have just heard.
- **Readiness Survey.** After small-group practice, panelists will take a short readiness survey. This survey asks panelists if they feel prepared to begin the calibration sample of items. If a panelist answers “no,” then an EdMetric facilitator will meet with the panelist individually to answer any questions.
- **PowerPoint Slides.** Part of large-group training and small-group practice will involve PowerPoint slides.
- **One-page Overview.** Prior to the workshop, we will send all panelists a one-page overview of alignment in order to acquaint them with the concepts of the workshop.

### **Alignment Tools**

EdMetric has created an Alignment Tool that can be customized to study designs and that will ease the cognitive load of panelists participating in alignment studies. Each panelist will have their own log-in for the tool. The tool compiles data after each round and populates the subsequent round with the items that need to be discussed. Each panelist will be able to review their own ratings as well as the ratings of the other panelists in the group. For the workshop, we require that all panelists have access to a computer.

### **Round Process**

In this section, we describe the round-by-round planned implementation for the workshop.

**Round 1.** Following the review of the training standards, panelists will independently align the remaining items. Panelists will remain in their breakout rooms for this work. Once all panelists complete their independent work, EdMetric will analyze the data for the agreement with the content expert ratings. Final alignment is based on majority opinion, not consensus.

**Round 2.** Panelists will discuss those items where a majority of panelists (more than 50%) disagreed with the original expert rating. The group facilitator guides the discussion through each item, by showing panelists where a disagreement occurred and asking panelists to discuss why they made the alignments that they did. Once panelists finish the discussion, they will independently align the flagged items. Once all panelists complete their independent work, EdMetric will analyze the data for the agreement with the content expert ratings.

**Round 3.** If necessary, we will conduct Round 3 for any remaining items where the panelist ratings disagree with each other. Here, the group leader will facilitate discussion of the

remaining items and enter the group's final rating for the standard. Again, final alignment is based on majority opinion, not consensus.

### **Workshop Monitoring**

Throughout the workshop, EdMetric staff will monitor the rooms to ensure all panelists are participating in the workshop discussion. In addition, we will monitor panelist progress through our alignment tool. This will allow us to monitor how quickly panelists are completing their review.

### **Evaluation Survey**

#### **Readiness Survey**

After practice, panelists will take a short readiness survey. This survey asks panelists if they feel prepared to begin the rating of items. If a panelist indicates that they feel unprepared, EdMetric's lead facilitator will meet with the panelist to address their questions.

#### **Final Evaluations**

After completing the item reviews, panelists will take a final evaluation. Panelists will be asked for their opinions on the procedure as well as demographic information. They will also be given the opportunity to provide qualitative feedback for the workshop.

### **Data Management & Security**

EdMetric will use a cloud-based approach to data management and security. For data management of non-secure documents and information, we use Google Workspace tools and applications to integrate teams working in different locations. We will use a mutually agreeable file structure that all team members can access. Google Documents allows us to easily share project documents among all team members. We recognize, however, that some states do not allow the use of Google Workspace tools. If this is the case, then we will work within One Drive to organize and share documents and data.

We use Moodle to organize our workshops. By using Moodle, all panelists have unique log-ins, and we can easily turn on and off access to the workshop, thereby controlling access to data. The Moodle site serves as a central location for all panelist work, and it provides a single place where panelists log-in for workshop activities.

We transfer secure data (e.g., personally-identifiable student information, item metadata with answer keys) using Sync.com. This system allows us to use email files and folders of any size, without using attachments. We provide our clients with a secure link where they can easily upload and download secure data. It allows us to set password protection and expiration dates to better secure files.

### **Capturing Results**

EdMetric will use our specialized alignment tool for the study. This tool allows panelists to easily enter their alignment ratings, and it allows us to capture and aggregate data in real time. We feed the final results from this tool into our data analysis program that allows us to efficiently

report alignment results for study criteria.

## Section 5. Technical Report

EdMetric will document the process and results in a comprehensive technical report. The technical report will contain a narrative description of the workshop, detailed information about judgments made by panelists, information about discussions, graphical representations of panelists' judgments, detailed summaries of panelists' evaluations, and copies of the handouts and slide decks used during the alignment workshop. Figure 3 presents a proposed table of contents for the alignment study report, which can be updated to reflect developments in the study with approval by NCDPI.

<b>Table of Contents</b>	
<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>SECTION 1. OVERVIEW .....</b>	<b>9</b>
NORTH CAROLINA END OF GRADE (EOG), END OF COURSE (EOC), AND NCEXTEND1 ASSESSMENTS.....	9
<i>Target Population</i> .....	9
<i>Prioritized Standards</i> .....	9
<i>Administration</i> .....	10
STUDY PURPOSE.....	10
DOCUMENT PURPOSE.....	11
<b>SECTION 2. METHODOLOGY OVERVIEW .....</b>	<b>12</b>
CONTENT STANDARDS .....	12
SELECTION OF CONTENT.....	12
PROCESS AND PROCEDURES .....	13
ITEM SET .....	14
STANDARD-LEVEL ANALYSES .....	15
DATA ANALYSES.....	15
EVALUATION CRITERIA.....	15
<i>Categorical Concurrence</i> .....	16
<i>Depth of Knowledge</i> .....	16
<i>Range of Knowledge</i> .....	16
<i>Balance of Knowledge</i> .....	17
<b>SECTION 3. ROLES AND RESPONSIBILITIES.....</b>	<b>18</b>
NORTH CAROLINA DPI STAFF .....	18
WORKSHOP FACILITATORS .....	18
WORKSHOP PANELISTS.....	20
<b>SECTION 4. IMPLEMENTATION.....</b>	<b>23</b>
ONLINE WORKSHOP .....	23
OPENING SESSION AND TRAINING.....	23
CALIBRATION AND VALIDATION ROUNDS.....	24
<b>SECTION 5. RESULTS .....</b>	<b>29</b>
STANDARDS-TO-STANDARDS RELATIONSHIP .....	29
DESCRIPTIVE INFORMATION .....	30
ITEM POOL ANALYSES.....	32
<i>English Language Arts</i> .....	32
<i>Mathematics</i> .....	39
<i>Science</i> .....	46
OVERALL ALIGNMENT SUMMARY.....	50
DISCUSSION .....	53
<i>Limitations</i> .....	56
<i>Conclusions</i> .....	56
<b>SECTION 6. VALIDITY EVIDENCE.....</b>	<b>57</b>
<b>REFERENCES .....</b>	<b>58</b>

*Figure 3. Proposed Table of Contents of Alignment Technical Report*

## References

- American Educational Research Association (AERA), the American Psychological Association (APA), and the National Council on Measurement in Education (NCME) Joint Committee on Standards for Educational and Psychological Testing. (2014). *Standards for educational and psychological testing*. Washington DC: AERA.
- Flowers, C., Wakeman, S., Browder, D., & Karvonen, M. (2007). *Links for academic learning: An alignment protocol for alternate assessments based on alternate achievement standards*. Charlotte, North Carolina: University of North Carolina at Charlotte.
- Hess, K.J., Jones, B.S., Carlock, D., & Walkup, J.R. (2009). *Cognitive rigor: Blending the strengths of Bloom's taxonomy and Webb's depth of knowledge to enhance classroom-level processes*. ERIC online Submission. Retrieved from <http://files.eric.ed.gov/fulltext/ED517804.pdf>.
- United States Department of Education. (2015). *Every Student Succeeds Act*. Washington, DC: Author. Retrieved from <https://www.gpo.gov/fdsys/pkg/BILLS-114s1177enr/pdf/BILLS-114s1177enr.pdf>.
- Webb, N. L. (1997). *Criteria for alignment of expectations and assessments in mathematics and science education* (Council of Chief State School Officers and National Institute for Science Education Research Monograph No. 6). Madison: University of Wisconsin, Wisconsin Center for Education Research.
- Webb, N. L. (1999). *Alignment study in language arts, mathematics, science, and social studies of state standards and assessments for four states*. Washington, DC: Council of Chief State School Officers.
- Webb, N. L. (2007). Issues related to judging the alignment of curriculum standards and assessments. *Applied Measurement in Education*, 20(1), 7-25.

## **Appendix B – Recruitment Letter**

**From:** Mark Phipps mark.phipps@edmetric.com  
**Subject:** North Carolina Alignment Studies: Jan./Feb. 2023 Workshop Dates - Interest Survey  
**Date:** October 28, 2022 at 5:20 PM  
**To:**  
**Bcc:**

---

MP

Greetings,

At the end of January and the first couple days of February, 2023, the North Carolina Department of Public Instruction (NCDPI), in conjunction with EdMetric, will be conducting several alignment study workshops for **EOG/EOC/NCEXTEND1** and the **English Language Development Standards**.

We had targeted October 2022 (this month) for these studies to be conducted; however, we had to move to new dates in Jan/Feb due to locating a venue that could accommodate the studies.

We are redistributing the interest survey now that we have confirmed meeting dates for the studies (which is why you are receiving the survey again and to see who is interested and available for the new times).

You are receiving this email as you were nominated by a school or district administrator as a highly qualified candidate to potentially serve on one of these alignment study committees. Educators who wish to be considered for participation must submit an application to alert us of their interest and availability.

Serving on a committee is viewed as an important professional development opportunity for both the educator and the school district and you will receive CEUs for your participation. Since these studies are now occurring during the school year, please confirm availability with your administrator. If selected, the state will provide funds to your district to pay for a substitute and will pay for qualified travel. More information will be sent to those who are selected.

**HOW TO APPLY:** Interested applicants should use the link below to fill out an online application to submit their availability.

- [North Carolina Alignment Studies - Interest Survey](#)
- The interest survey deadline to apply is **Wednesday, November 9th, 2022**.

**MEETING DATES:**

- **January 30-31, 2023: English Language Development Standards Alignment Study**
- **February 1-2, 2023: EOG/EOC/NCEXTEND1 Alignment Study**

**IMPORTANT NOTE** We are preparing to host these important workshops in-

~~.....~~ We are preparing to host three important workshops in **person** in Raleigh, NC. All parties are working together to ensure a safe environment that aligns with expert protocols to mitigate the spread of Covid-19, such as physical distancing.

After the application process has been completed, EdMetric will select a representative sample from across the state to participate. The first round of invitations will be sent out no later than November 30th, 2022. If you are selected you will receive a meeting invitation with full details including location, travel, lodging, and substitute information.

Further, we do need teachers that serve in general education, EL, and EC teachers on all committees. We will be looking for a diversity of these roles to serve during the workshops.

Can't attend or are not interested? No worries, but we still ask that you click the button to access the Interest Survey, log-in and state you are unavailable. This will avoid unwanted, and unnecessary, follow-up emails to you.

We hope you consider participating in one of these important workshops.

--

Mark Phipps

EdMetric  
[mark.phipps@edmetric.com](mailto:mark.phipps@edmetric.com)  
651-757-5646

**From:** Mark Phipps mark.phipps@edmetric.com  
**Subject:** North Carolina Alignment Study - General & NCEXTEND1 | February 1-2, 2023  
**Date:** November 22, 2022 at 2:51 PM  
**To:**  
**Bcc:**

MP

Greetings, {First Name}!

On behalf of the North Carolina Department of Public Instruction (NCDPI), EdMetric would like to invite you to participate on the Alignment Study Committee for:

- **Alternate/EXTEND1 - Grades 3-4**, in support of the (General or NCEXTEND1) Assessments.
- This is your anticipated group; if your assigned group should change, we will communicate that as soon as possible.

At the alignment study, participating educators will review, discuss, and align the EOG/EOC assessments to the North Carolina Standard Course of Study, or will align the NCEXTEND1 alternate assessments to the North Carolina extended content standards. You will be working in small groups or panels to align items, which will include both independent work and collaborating with others.

Based on your background and qualifications, you have been invited to participate. Serving on a committee is viewed as an important professional development opportunity for both the educator and the school district. Your participation is highly encouraged.

### **Important Meeting Details**

#### **WHEN**

Wednesday, February 1 and Thursday, February 2, 2023 | 8:30 AM - 5 PM, both days

Note: Please arrive before the start time for check-in and so that the training and work can begin on time.

#### **WHERE**

McKimmon Center

1101 Gorman St, Raleigh, NC 27606

Note: There is plenty of free parking at the McKimmon center and there will be no charge for parking.

#### **RSVP**

Please **RSVP** to this invitation **by Friday, December 2nd, 2022**

Note: You will RSVP by completing the brief questionnaire at the link below.

[RSVP Questionnaire Link](#)



[RSVP Questionnaire Link](#)

This meeting will take place in Raleigh, NC. Per state policies, participants traveling 35+ miles to the McKimmon Center (1101 Gorman St, Raleigh, NC 27606) would be eligible for lodging reimbursement at the approved per diem lodging rate. Individuals who qualify and elect to stay at the prearranged hotel will be responsible for paying for your room when you arrive and someone from DPI will be in attendance on the last day of the workshop to collect paperwork for reimbursement.

DPI will also collect paperwork for any substitute reimbursements and travel mileage.

Please fill out the RSVP Questionnaire to complete the registration process. Once you complete the registration process, you will receive an email confirming your registration.

If you have any questions or need assistance with completing the RSVP Questionnaire, you can reach me (Mark Phipps) at: [mark.phipps@edmetric.com](mailto:mark.phipps@edmetric.com).

Thank you.

Mark Phipps  
[mark.phipps@edmetric.com](mailto:mark.phipps@edmetric.com)  
[www.edmetric.com](http://www.edmetric.com)  
EdMetric LLC  
651-757-5646

## **Appendix C – Workshop Agenda**

# NC EOG/EOC Alignment Study Workshop Agenda

**Wednesday, February 1 – Thursday, February 2, 2023**

Time	Activities	Notes
<b>DAY 1</b>		
8:00 – 9:00 am	<p><i>All Study Participants</i></p> <ul style="list-style-type: none"> <li>• Welcome from the North Carolina Department of Public Instruction</li> <li>• Welcome from EdMetric</li> <li>• Housekeeping</li> <li>• Training Overview</li> <li>• Alignment Introduction</li> </ul>	<p><i>Materials:</i></p> <p><i>Each Panelist has their own Moodle Access</i></p> <p><i>Opening Slide deck</i></p> <p><i>Module 1 Slides</i></p>
9:00 – 9:15	<i>Transition to Breakout Rooms and Break</i>	
9:15 – 10:00	<p><i>Breakout Rooms – Large Group</i></p> <ul style="list-style-type: none"> <li>• Alignment Training</li> <li>• Cognitive Complexity Training</li> </ul>	<p><i>Module 2 Content Alignment Slides</i></p> <p><i>Module 2 Content Alignment Video</i></p> <p><i>Module 3 Cognitive Complexity Slides - DOK</i></p> <p><i>Module 3 Cognitive Complexity Video - DOK</i></p> <p><i>DOK Wheel</i></p> <p><i>Module 4 Decision Rules Slides</i></p> <p><i>Module 4 Decision Rules Videos</i></p>
10:00 – 11:30 pm	<p><i>Breakout Rooms – Panels</i></p> <p><i>Training Set</i></p> <ul style="list-style-type: none"> <li>• Panelists independently rate 10 items selected for training.</li> <li>• Group leaders will remain with the group during this time.</li> <li>• Discuss training items with disagreement.</li> <li>• Re-rate training items.</li> <li>• Readiness Survey</li> </ul>	<p><i>Training Set Link - Moodle</i></p> <p><i>Readiness Survey Link – Moodle</i></p>

# NC EOG/EOC Alignment Study Workshop Agenda

Time	Activities	Notes
11:30 – 12:30	<i>Lunch</i>	
12:30 – 2:00	<i>Calibration Set - 1st Grade</i> <ul style="list-style-type: none"> <li>● Panelists independently rate 15 items selected for calibration.</li> <li>● Group leaders will remain with the group during this time.</li> <li>● Discuss training items with disagreement.</li> <li>● Re-rate training items.</li> </ul>	<a href="#">Calibration Set 1st Grade Link - Moodle</a>
2:00 – 3:15	<i>Break</i>	
3:15 – 4:00	<i>Validation Set - 1st Grade</i> <ul style="list-style-type: none"> <li>● Panelists independently rate 15 items selected for validation.</li> <li>● Group leaders will remain with the group during this time.</li> <li>● Discuss training items with disagreement.</li> <li>● Re-rate training items.</li> </ul>	<a href="#">Validation Set Link - Moodle</a>
4:00 – 5:00	<i>Independent Set - 1st Grade</i> <ul style="list-style-type: none"> <li>● Panelists independently rate items assigned.</li> <li>● Group leaders will remain with the group during this time. There is no discussion during this period.</li> <li>● Process Evaluation Survey</li> </ul>	<a href="#">Independent Item Set Link - Moodle</a>  <a href="#">Process Evaluation Link – Moodle</a>
	<i>Conclude for Day</i>	

# NC EOG/EOC Alignment Study Workshop Agenda

Time	Activities	Notes
<b>Day 2</b>		
8:00 – 10:00 am	<i>Calibration Set - 2nd Grade</i> <ul style="list-style-type: none"> <li>Panelists independently rate 15 items selected for calibration.</li> <li>Group leaders will remain with the group during this time.</li> <li>Discuss training items with disagreement.</li> <li>Re-rate training items.</li> </ul>	<a href="#">Calibration Set 2nd Grade Link - Moodle</a>
10:00 – 10:15	<i>Break</i>	
10:15 – 12:00 pm	<i>Independent Set</i> <ul style="list-style-type: none"> <li>Panelists independently rate items assigned.</li> <li>Group leaders will remain with the group during this time. There is no discussion during this period.</li> </ul>	<a href="#">Independent Item Set Link - Moodle</a>
12:00 – 1:00	<i>Lunch</i>	
1:00 – 4:45	<i>Complete Independent Sets</i> <ul style="list-style-type: none"> <li>Panelists independently rate items assigned.</li> <li>Group leaders will remain with the group during this time. There is no discussion during this period.</li> </ul>	<a href="#">Independent Item Set Link - Moodle</a>
4:45 – 5:00	<i>Breakout Rooms – Panels</i> <ul style="list-style-type: none"> <li>Final Evaluation</li> <li>Best Wishes and Thanks!</li> </ul>	<a href="#">Evaluation Link - Moodle</a>
	<i>Conclude for Day</i>	

## **Appendix D – Training Slides**

# NC EOG/EOC & NCEXTEND1 Alignment Study

North Carolina Department of Public Instruction

---

February 1 - 2, 2023



## Welcome!

The NCDPI and EdMetric teams welcome you to this alignment study.

We appreciate your expertise and willingness to participate.

By participating, you support the development and improvement of the EOG/EOC and NCEXTEND1 assessments.

# Alignment Study

*February 1, 2023*

**Tammy Howard, Ph.D.**

Senior Director of Accountability and Testing

**K. Maxey-Moore**

Section Chief of Test Development

# Test Development Team

**Elizabeth Nash**

*Test Measurement Specialist*

**Dan Auman**

*Test Measurement Specialist*

**Michael Mahoney**

*Test Measurement Specialist*

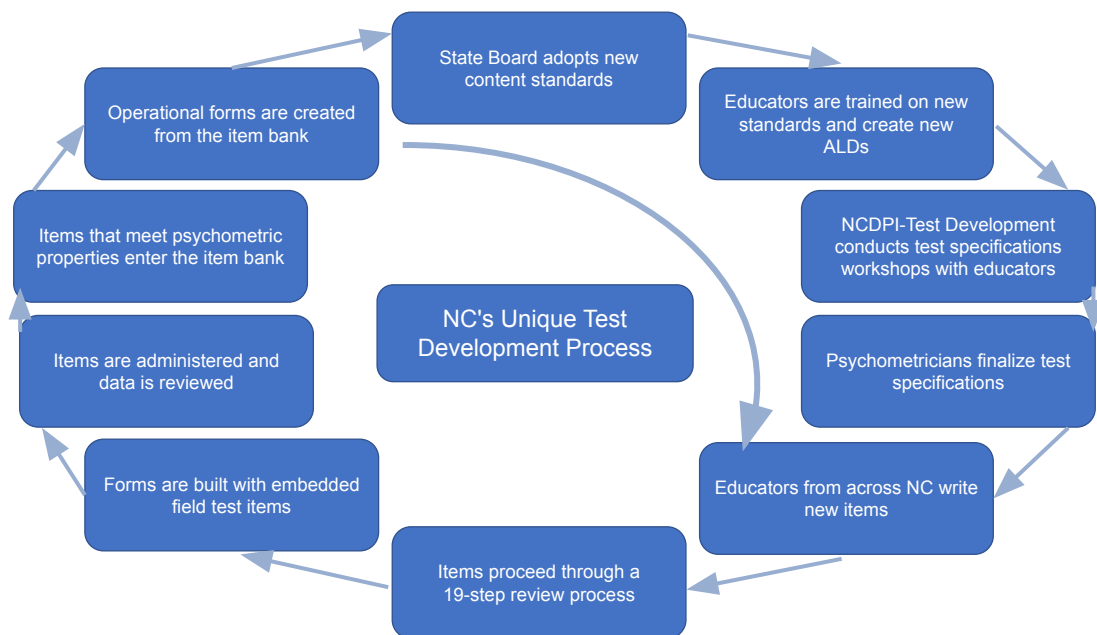
**Iris Irving**

*Program Coordinator and Operations Consultant*

**Stephanie Boyd**

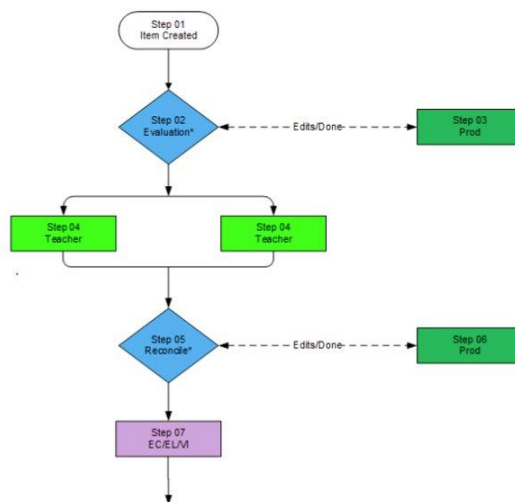
*Operations Consultant*



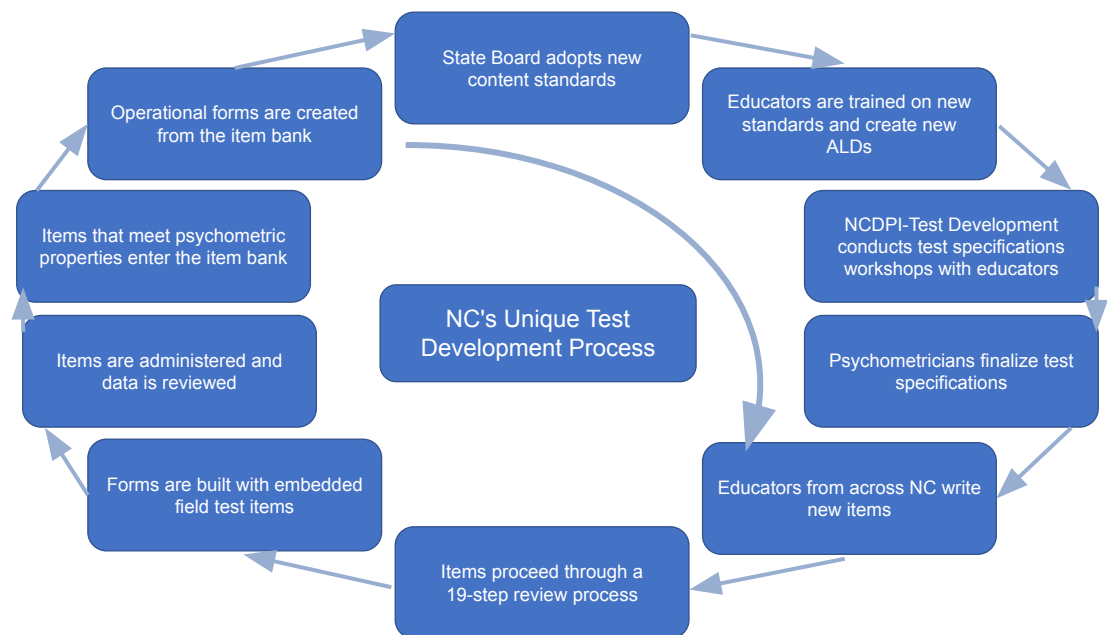
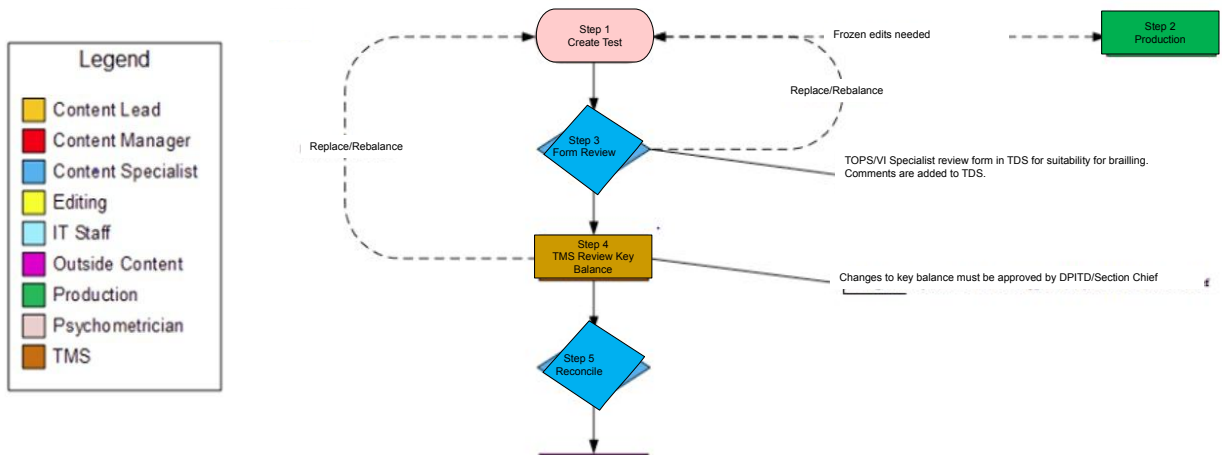


# Item Development Process

## Item Review



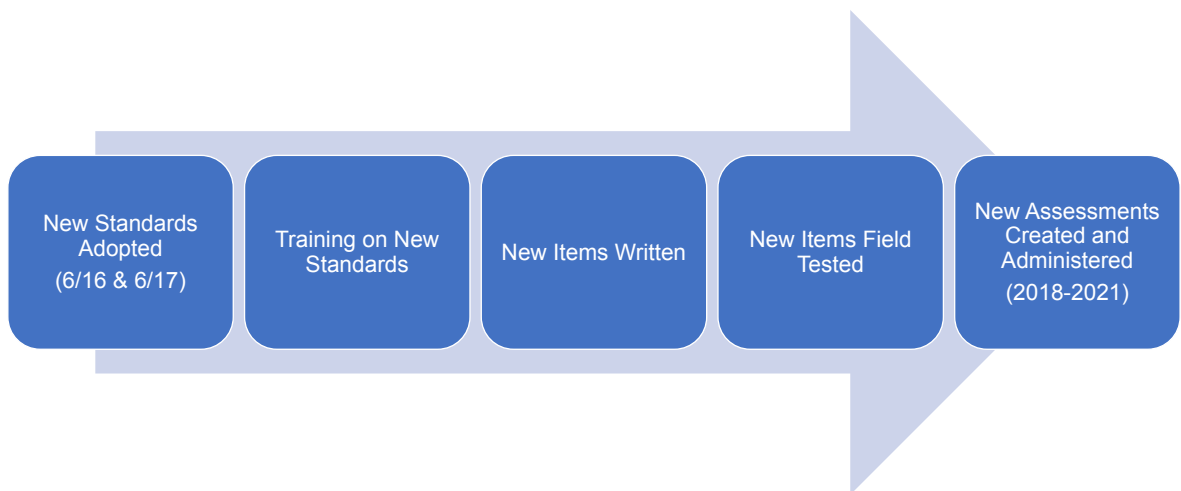
# Test Development Process



# Norm Referenced vs. Criterion Referenced

- **Norm referenced tests** compare individual performance with the performance of a group.
- **Criterion-referenced assessments** measure how well a student has mastered a specific learning goal (or objective). Student performance is judged by how closely the performance matches specific criteria, not by how the student compares to others.

## Test Development Timeline



# Alignment Study

- **What is an alignment study?**
  - Examines the extent to which the North Carolina assessments align to the corresponding NC *Standard Course of Study* and the NC Extended Content Standards
- **Why is an alignment study needed?**
  - Collects validity evidence for assessment peer review for the U.S. Department of Education
- **Why use an outside vendor?**
  - Conducts an independent evaluation

## When is an alignment study necessary?

- Adopt new state standards
- Change blueprint
- Create a new test
- Develop new Achievement Level Descriptors

# Ambassadors

## Substitute Pay, CEUs, and Reimbursements

- Substitute pay
  - Tereca Batts will be here tomorrow to pass out the form that needs to be completed and mailed in.
- Reimbursement (travel, hotel, meals)
  - Tereca Batts will be here tomorrow to answer questions and collect forms and receipts.
- CEUs – 2 days (1.6 CEUs)
  - CEU credit will appear on your NCEES transcript within one week. Participants without NCEES access should notify Elizabeth Nash ([Elizabeth.Nash@dpi.nc.gov](mailto:Elizabeth.Nash@dpi.nc.gov)) to get a paper copy of your certificate.

## EdMetric Team

### EOC/EOG Facilitators

- Dr. Karla Egan
- Dr. Melia Franklin
- Gretchen Schultz (ELA)
- Mike Brown (Math)

### NCEXTEND1 Facilitators

- Dr. Anne Davidson
- Dr. Stanley Rabinowitz
- Susan Schepp

### Program Managers

- Mark Phipps
- Amy Jones

## Assessments

- EOG/EOC
  - Mathematics: Grades 3 – 8, NC Math 1, NC Math 3
  - Reading: Grades 3 – 8, English II
- NCEXTEND1
  - Mathematics: Grades 3 – 8, NC Math 1
  - Reading: Grades 3 – 8, English II
  - Science: Grades 5, 8, Biology

## Housekeeping

- ❖ Cell phones
  - Put cell phones away.
  - Only use cellphones outside of this room.
- ❖ No personal devices
- ❖ Non-disclosure agreements



---

## Training Module 1: *What is assessment alignment?*

Alignment is...

*the relative match between  
the content standards and the  
assessment items*



# Alignment Strength

## → Full Alignment

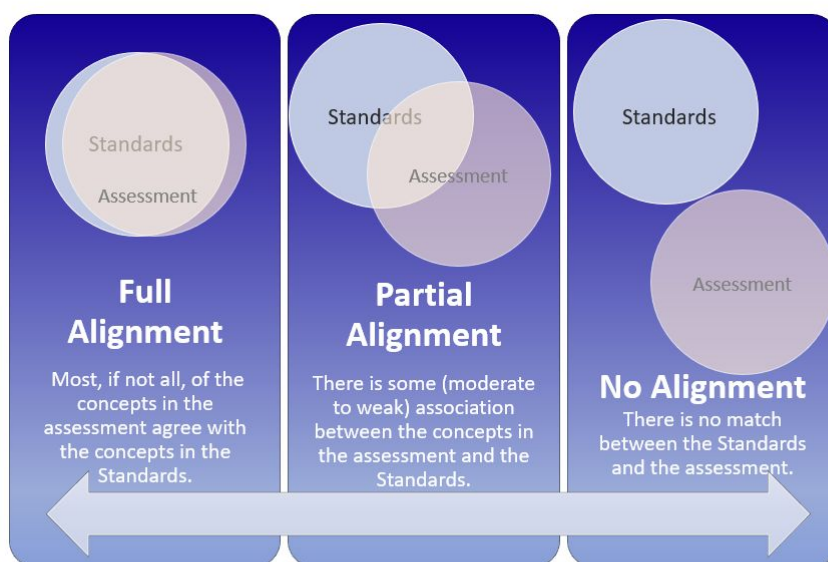
The assessment corresponds with fullest intent of the assessable Standards, including content and cognitive complexity.

## → Partial Alignment

The assessment corresponds with a significant part but not all of the assessable Standards.

## → Not Aligned

There is no alignment between the assessable Standards and the assessment.





# Content Standards - Reading

## GRADE 4

**LANGUAGE STRAND:** Language skills are inseparable from and vital to reading, writing, speaking, and listening. Even though these skills are in a separate strand, it is important for students to use effective and correct language skills in all contexts. The NC ELA Language Standards emphasize the use of accurate language skills, not just the identification of accurate language skills. The Grammar and Conventions Grade Band Continuums allow for differentiation and re-teaching as needed. It is important that students begin to demonstrate proficiency in the lower grade(s) of each band, while students in the highest grade of the band should demonstrate proficiency of the listed language skills by the *end of the school year*.

### Language Standards

#### Conventions of Standard English

- L.4.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking; demonstrate proficiency within the 4-5 grammar continuum. (See Language Standards – Grammar Continuum page 8.)
- L.4.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing; demonstrate proficiency within the 4-5 conventions continuum. (See Language Standards – Conventions Continuum page 11.)

#### Knowledge of Language

- L.4.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening.
  - a. Choose words and phrases to convey ideas precisely.
  - b. Choose punctuation for effect.
  - c. Differentiate between contexts that call for formal English and situations where informal discourse is appropriate.

#### Vocabulary Acquisition and Use

- L.4.4 Determine and/or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies: context clues, word parts, word relationships, and reference materials.
- L.4.5 Demonstrate understanding of figurative language and nuances in word meanings.
  - a. Explain the meaning of simple similes and metaphors in context.
  - b. Recognize and explain the meaning of common idioms, adages, and proverbs.
- L.4.6 Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being and that are basic to a particular topic.

Level of Alignment  
Ratings



## We align an assessment using different lenses.

- Student performance
- Content categories
- Cognitive complexity



## Study Process Overview

**Step 1.** Before the workshop, EdMetric team determined initial ratings for items and standards.

**Step 2.** After training, educators review and revise initial ratings.

**Step 3.** Educators review disagreements and make final ratings.

**WORKSHOP**

## Workshop Overview

1. Training
2. Practice (10 items in panels)
3. Readiness Survey
4. Calibration Set
5. Validation Set
6. Individual Item Sets
7. Process Evaluation Survey
8. Final Evaluation

## Roles & Responsibilities

### → Panelists

- ◆ Panel Contribution
- ◆ Table Leader

### → Facilitators

- ◆ Workshop Leads
- ◆ Content Area Leads

## Next up...

- NCEXTEND1 panels move to your breakout room.
- Training Round
  - Practice with technology tools
  - Become familiar with the concepts of alignment

Questions?

[info@edmetric.com](mailto:info@edmetric.com)



This Photo by Unknown Author is licensed under CC BY

## Released Content

- [NCEXTEND1](#)
- [EOG & EOC](#)

---

## Module 2: *What criteria do we use to judge alignment?*

### ❖ Key criteria



1. Rate the item's content

2. Rate the item's cognitive complexity

# Key 1: Aligning content

In this section, we talk about how assessment items align to the intent (i.e., topics, meaning) of the standards.



## Content Standards - Reading



### GRADE 4

**LANGUAGE STRAND:** Language skills are inseparable from and vital to reading, writing, speaking, and listening. Even though these skills are in a separate strand, it is important for students to use effective and correct language skills in all contexts. The NC ELA Language Standards emphasize the use of accurate language skills, not just the identification of accurate language skills. The Grammar and Conventions Grade Band Continuums allow for differentiation and re-teaching as needed. It is important that students begin to demonstrate proficiency in the lower grade(s) of each band, while students in the highest grade of the band should demonstrate proficiency of the listed language skills by the *end of the school year*.

#### Language Standards

##### Conventions of Standard English

- L.4.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking; demonstrate proficiency within the 4-5 grammar continuum. (See Language Standards – Grammar Continuum page 8.)
- L.4.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing; demonstrate proficiency within the 4-5 conventions continuum. (See Language Standards – Conventions Continuum page 11.)

##### Knowledge of Language

- L.4.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening.
  - a. Choose words and phrases to convey ideas precisely.
  - b. Choose punctuation for effect.
  - c. Differentiate between contexts that call for formal English and situations where informal discourse is appropriate.

##### Vocabulary Acquisition and Use

- L.4.4 Determine and/or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies: context clues, word parts, word relationships, and reference materials.
- L.4.5 Demonstrate understanding of figurative language and nuances in word meanings.
  - a. Explain the meaning of simple similes and metaphors in context.
  - b. Recognize and explain the meaning of common idioms, adages, and proverbs.
- L.4.6 Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, representing concepts and ideas, describing emotions, or states of being and that are basic to a particular topic.

Level of Alignment  
Ratings





# Content Standards - Math

Operations and Algebraic Thinking	
Represent and solve problems involving multiplication and division.	
NC.3.OA.1	For products of whole numbers with two factors up to and including 10: <ul style="list-style-type: none"> <li>Interpret the factors as representing the number of equal groups and the number of objects in each group.</li> <li>Illustrate and explain strategies including arrays, repeated addition, decomposing a factor, and applying the commutative and associative properties.</li> </ul>
NC.3.OA.2	For whole-number quotients of whole numbers with a one-digit divisor and a one-digit quotient: <ul style="list-style-type: none"> <li>Interpret the divisor and quotient in a division equation as representing the number of equal groups and the number of objects in each group.</li> <li>Illustrate and explain strategies including arrays, repeated addition or subtraction, and decomposing a factor.</li> </ul>
NC.3.OA.3	<div>Level of Alignment Ratings</div> <ul style="list-style-type: none"> <li>Solve word problems involving multiplication and division. Represent the problem using arrays, pictures, and/or equations with a symbol for the unknown number to represent the problem.</li> <li>Solve division word problems with a divisor and quotient up to and including 10. Represent the problem using arrays, pictures, repeated subtraction and/or equations with a symbol for the unknown number to represent the problem.</li> </ul>
Understand properties of multiplication and the relationship between multiplication and division.	
NC.3.OA.6	Solve an unknown-factor problem, by using division strategies and/or changing it to a multiplication problem.
Multiply and divide within 100.	
NC.3.OA.7	Demonstrate fluency with multiplication and division with factors, quotients and divisors up to and including 10.

## ALDs

### Achievement Level 3:

Students at Level 3 demonstrate **sufficient** understanding of grade level content standards though some support may be needed to engage with content at the next grade/course.

### Achievement Level

Level 5

Level 4

Level 3

Not Proficient

### Achievement Level 4:

Students at Level 4 demonstrate a **thorough** understanding of grade level content standards and are on track for career and college.



## Let's try a couple...

- Don't Worry!
- As we break into our smaller groups, we'll get an opportunity to dig in and give it a try in your content area and grade level.

## Confirming the Standard

There are 594 children participating in a county science fair. They are put into groups of six children. How many groups will participate?

- A 60
- B 98
- C 99
- D 150

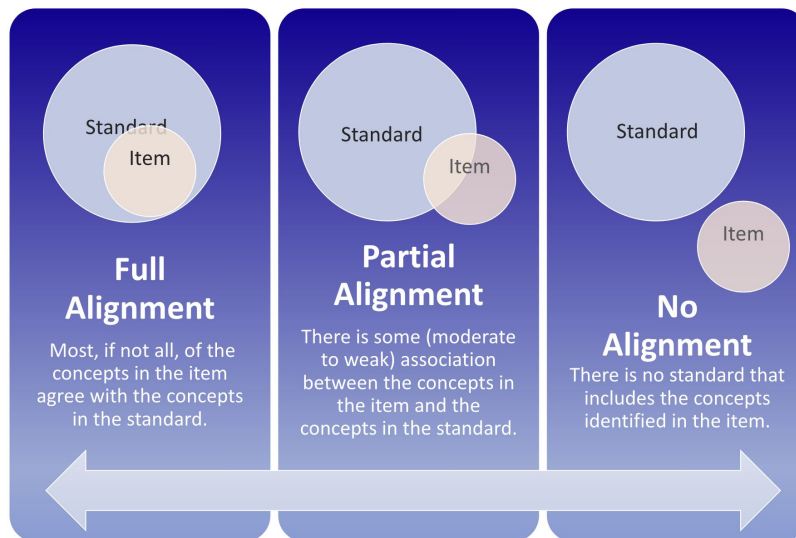
## Confirming the Standard

How does the family's decision to go to Snorkeling Adventures relate to the theme of the selection?

Grade 8 Reading <https://www.dpi.nc.gov/media/10676/open>

## Alignment Strength

- Full Alignment
  - Corresponds with fullest *intent* of the standard
- Partial Alignment
  - Corresponds with a significant part but not all of the standard



## Confirming Alignment Strength

19 Which quote from the text suggests the future of concrete?

- A "Let's face it—concrete is boring."
- B "When you meet the researchers, their passion for concrete becomes infectious."
- C "The way that concrete is mixed is very simple says Professor Ulm."
- D "This version is stronger, more durable, and greener."

Grade 6 ELA-<https://www.dpi.nc.gov/media/10875/open>

**Alignment Strength**

Full

ends

✓ Full  
Partial

## Confirming the Secondary Standard

19 Which quote from the text suggests the future of concrete?

- A "Let's face it—concrete is boring."
- B "When you meet the researchers, their passion for concrete becomes infectious."
- C "The way that concrete is mixed is very simple says Professor Ulm."
- D "This version is stronger, more durable, and greener."

### Confirm Secondary Standard When

- An alternative alignment may be made
- An off-grade alignment has been made
- A secondary standard is necessary to cover a critical part of the standard  
(Ask, *Is the primary standard I selected a partial alignment? If so, is there another standard that addresses what is not already aligned?*)

## Confirming the ALD

19 Which quote from the text suggests the future of concrete?

- A "Let's face it—concrete is boring."
- B "When you meet the researchers, their passion for concrete becomes infectious."
- C "The way that concrete is mixed is very simple says Professor Ulm."
- D "This version is stronger, more durable, and greener."

### Achievement Level

Level 5

Level 4

Level 3

Not Proficient

# Questions?

info@edmetric.com



This Photo by Unknown Author is licensed under CC BY

---

## Module 3: *Cognitive Complexity*

### Key 2: Aligning cognitive complexity

In this section, we talk about how assessment items align to the *thought processes* that the standards demand.

## ❖ Cognitive complexity

- Focus on thought processes
- Cognitive demand of the item, standard, or task
- Measured with depth-of-knowledge (DOK) scale

### What DOK is and What DOK is not

What DOK IS	What DOK IS NOT
<ul style="list-style-type: none"> <li>• an evaluative tool—a language system used to differentiate between among levels of cognitive complexity needed to express understanding or knowing</li> </ul>	<ul style="list-style-type: none"> <li>• used to evaluate <i>text</i> complexity or <i>topic</i> complexity</li> </ul>
<ul style="list-style-type: none"> <li>• used to interpret standards, objectives, questions</li> </ul>	<ul style="list-style-type: none"> <li>• a measure of student engagement</li> </ul>
<ul style="list-style-type: none"> <li>• ensures the complexity of the expected learning outcomes are understood</li> </ul>	<ul style="list-style-type: none"> <li>• a value judgment and does not reflect importance (one level is not inherently better than another)</li> </ul>
<ul style="list-style-type: none"> <li>• ensure that assessments provide opportunities to infer a students attainment of a learning outcome</li> </ul>	
<ul style="list-style-type: none"> <li>• allow students to engage in learning at the level of complexity intended</li> </ul>	

## ❖ Cognitive complexity

### Depth of Knowledge

- Level 1 Recall**  
Recall of a fact, information, or procedure.
- Level 2 Skill/Concept**  
Use information or conceptual knowledge, two or more steps, etc.
- Level 3 Strategic Thinking**  
Requires reasoning, developing plan or a sequence of steps, some complexity, more than one possible answer.
- Level 4 Extended Thinking**  
Requires an investigation, time to think and process multiple conditions of the problem.



[https://www.shutterstock.com/search/cognitive-complexity?image\\_type=photo](https://www.shutterstock.com/search/cognitive-complexity?image_type=photo)

## Complexity is *not* difficulty.

- Complexity is often confused with difficulty.
- Difficulty
  - refers to student performance (% correct) on a given task
  - does not describe a task's cognitive demand

*easy?*

*difficult?*



# DIFFICULTY $\neq$ COMPLEXITY

## DIFFICULTY

How much **effort** is needed to answer a question, address a problem, or accomplish a task?

How many **people** can answer a question, address a problem, or accomplish a task correctly or successfully?

Easy or Hard

## COMPLEXITY

What kind of **thinking, action, or knowledge** must be demonstrated and communicated to answer a question, address a problem, or accomplish a task?

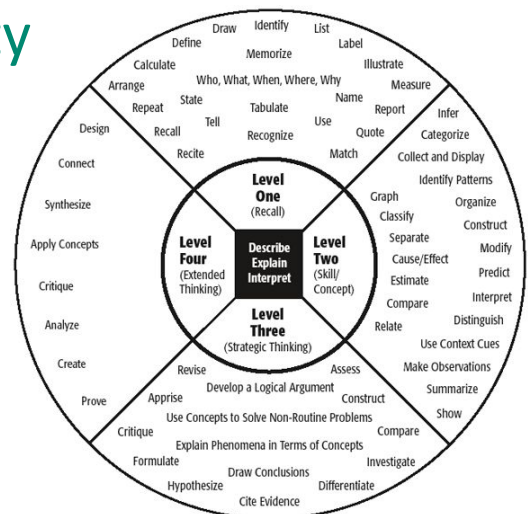
How many **different ways** can a question be answered, a problem be addressed, or a task be accomplished?

Simple or Complex

<http://maverikeducation.blogspot.com/2014/03/difficulty-vs-complexity-whats.html>

## ❖ Measure of complexity

Depth of Knowledge (DOK)



## DOK - Reading

Amelia knew U.S. President Franklin Delano Roosevelt and his wife, Eleanor. Amelia and Eleanor gave speeches in favor of women's rights.

- 12 Whose wife made speeches with Amelia Earhart?
- A Franklin Roosevelt's
  - B Wilmer Stultz's
  - C Edwin Elliot's
  - D Fred Noonan's

## DOK - Reading

12

On June 1, 1937, Amelia and her navigator, Fred Noonan, took off from Miami, Florida. They made stops in South America, Africa, Asia, and Australia.

- 15 In paragraph 12, what is another name for *navigator*?
- A fighter
  - B target
  - C customer
  - D guide

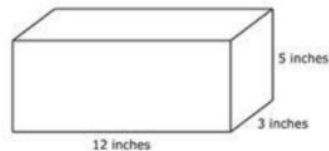
## TRUMAN: What is a typical day like?

**CHEF JUSTUS:** A typical day is coming in, going over financial reports from the previous day, meeting with your staff and going over menu development. We have menu tastings, too. The property is pretty big, so we have really big groups that come in. We have one coming up soon for 1,300 people. It's a lot of planning—planning ahead. You have to figure out how much lettuce to order, how many vegetables to order, things of that nature. We try to use seasonal products on the menu and change them for spring, fall, and special holidays.

- 23 How does the author show that being an executive chef is hard work?
- A by showing the many different duties of an executive chef every day
  - B by describing the many recipes that an executive chef can make each season
  - C by explaining the different classes that an executive chef must complete
  - D by talking about the people who have eaten in his restaurant recently

# DOK - Math

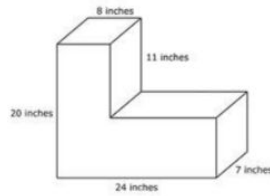
Mathematics—NC.5.MD.5



What is the volume of this figure?

## DOK - Math

Mathematics—NC.5.MD.5



What is the volume of this figure?

## DOK - Math

A rectangular prism has a volume of 40 cubic units. The length, width and height are all whole numbers. The height is the longest side. How many different heights could the rectangular prism have?



Level 1 – Recall



Level 2 – Skill/concept



Level 3 – Strategic thinking



Level 4 – Extended thinking

## If DOK were a game show

### DOK 1

What is the knowledge?

**JEOPARDY!**

Recall and  
Rote Response

### DOK 2

How can the knowledge be applied?

**TOP CHEF**

Applied Concepts  
and Skills

### DOK 3

How can the knowledge solve problems?

**SURVIVOR**

Strategic  
Thinking

### DOK 4

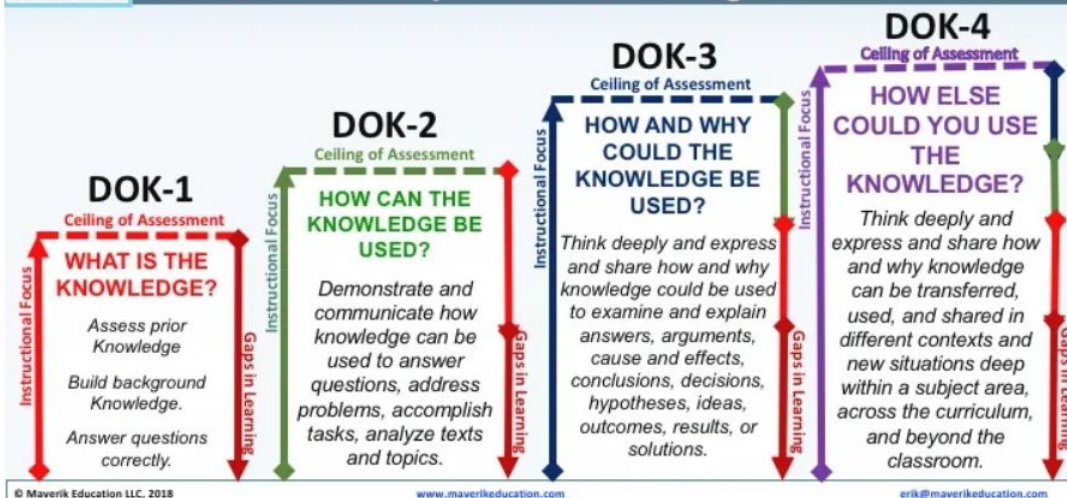
How can the knowledge be extended?

**SHARK TANK**

Extended  
Thinking



# Teaching and Learning for Depth of Knowledge



<https://maverikeducation.com/blog/f/depth-of-knowledge-or-extent-of-learning>

## Recap: DOK



Measure of cognitive complexity



Describes thinking



Implies interaction between student understanding and the ways the student can respond to the task



Four levels that increase in complexity



---

# Decision Rules



## Summary

- We will review each item for
  - Standard
  - Strength
  - DOK
  - Secondary standard (optional)
  - ALD.



## Decision Rule #1

- Confirm the Standard first.
  - The alignment strength is referring to the relative strength of the item to standard match.
  - Content match
  - Align to an on-grade standard (even if partial) before assigning to an off-grade standard (even if full)

## Decision Rule #2

- Regarding alignment strength: if the item captures *most* of the meaning of the Standard
  - to the **fullest intent** → pick “Full” alignment
  - with a **significant part but not all of the standard** → pick “Partial” alignment.



## Decision Rule #3

- Regarding “Not Aligned”
  - If you cannot find a standard that aligns (e.g., content is below Grade 3), select a related standard with the closest match → then pick “No Alignment”.

## Decision Rule #4

- Confirm the *highest* DOK level demanded by the item.
  - Ask, *What is the most complex level of thinking the student has to do?*
  - Ask, *Of all that the student is being asked to do, what is the most complex?*

## Decision Rule #5

- Confirm a secondary standard only if
  - an alternative alignment may be made
  - an off-grade alignment has been made
  - a secondary standard is necessary to cover a critical part of the standard (Ask, Is the primary standard I selected a partial alignment? If so, is there another standard that addresses what is not already aligned?)

*Ask: Is the primary standard I selected a partial alignment? If so, is there another standard that addresses what is not already aligned?*

## Decision Rule #6

- Confirm the ALD that best matches the student's proficiency if they answer the item correctly.

## Questions?

[info@edmetric.com](mailto:info@edmetric.com)



This Photo by Unknown Author is licensed under CC BY

---

# Calibration & Validation

## Item Batches

- Calibration
  - ~15 items (form is split in half)
  - Rate items independently
  - Discuss items where the majority of the group disagrees
- Validation
  - ~15 items
  - Rate items independently
  - Discuss items where the majority of the group disagrees
- Individual Items
  - 12 to 20 items rated independently

## Calibration



### Round-1 Results

Panel disagreements for each item

### Round-2 Ratings

Apply discussion to second round of ratings

## Calibration



### Round-2 Results

Remaining disagreements for each item

### Final Ratings

Apply discussion to third round of ratings

## Results

- Used to inform item development
- Used for federal reporting

---

## Day 2 Orientation

## Day 2

Morning: Individual Sets

- HS ELA--CAL/VAL

Mid-Morning: CAL/VAL

After Lunch: Individual Sets

## **Appendix E – Readiness Survey**



# NC Readiness Survey

\* Required

Please consider each statement below. Choose the level of agreement or disagreement you have with each statement.

1. Please select your workshop panel \*

*Mark only one oval.*

- ☐ EOG 3-4 Reading
- ☐ EOG 5-6 Reading
- ☐ EOG 7-8 Reading
- ☐ English II Reading
- ☐ EOG 3-4 Math
- ☐ EOG 5-6 Math
- ☐ EOG 7-8 Math
- ☐ EOC HS Math
- ☐ EXT1 3-4      *Skip to question 3*
- ☐ EXT1 5-6      *Skip to question 3*
- ☐ EXT1 7-8      *Skip to question 3*
- ☐ EXT1 High School      *Skip to question 3*

Depth of Knowledge

2. I understand what depth of knowledge (DOK) means. \*

*Mark only one oval.*

- ☐ Strongly Agree      *Skip to question 4*
- ☐ Agree      *Skip to question 4*
- ☐ Disagree      *Skip to question 4*
- ☐ Strongly Disagree      *Skip to question 4*

### Links for Academic Learning

3. I understand what Links for Academic Learning (LAL) means. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

### Readiness Questions

4. The training session provided me a clear overview of the alignment process. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

5. I understand the goals of the alignment study workshop. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

6. I understand my role in the workshop. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

7. I understand how to rate the items on the online worksheet. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

8. I understand how I will (1) rate the items independently and (2) work with my panel to resolve different ratings.

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

9. I understand the purpose of each type of rating. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

10. The training round was helpful to me. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

11. I understand that I will receive additional training throughout the workshop. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

12. Before I begin working independently, I would like additional training and/or to ask additional questions regarding the alignment process.

*Mark only one oval.*

- ☐ Yes
- ☐ No

If you answered "Yes" to the previous questions, then please answer the next question.

13. Please list your question or provide your name and panel here. \*

---

---

---

---

---

This content is neither created nor endorsed by Google.

Google Forms



## **Appendix F – Final Evaluation Survey**

# NC Final

\* Required

## Final Evaluation

Please consider each statement below. Choose the level of agreement or disagreement you have with each statement.

1. Please select your workshop panel \*

*Mark only one oval.*

- ☐ EOG 3-4 Reading
- ☐ EOG 5-6 Reading
- ☐ EOG 7-8 Reading
- ☐ English II Reading
- ☐ EOG 3-4 Math
- ☐ EOG 5-6 Math
- ☐ EOG 7-8 Math
- ☐ EOC HS Math
- ☐ EXT1 3-4
- ☐ EXT1 5-6
- ☐ EXT1 7-8
- ☐ EXT1 High School



2. The workshop training and practice prepared me for the assigned tasks. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

3. I understand the purpose of discussing the items where my panel disagreed. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

4. I understand the purpose of the Calibration Set. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

5. I understand the purpose of the Validation Set (if applicable). \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

6. I rated my items independently. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

7. I believe that others listened to my opinions during our discussion of alignment ratings. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

8. I understood my role in the workshop. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

9. I understood how to make alignment decisions. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

10. I understood how to assign DOK (EOG/EOC) or LAL (NCEXTEND1) levels. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

11. I understood how to make alignment strength decisions (i.e. full, partial). \*

*Mark only one oval.*

- ☐ Strongly Agree  
☐ Agree  
☐ Disagree  
☐ Strongly Disagree

12. I understood how to make ALD alignment decisions. \*

*Mark only one oval.*

- ☐ Strongly Agree  
☐ Agree  
☐ Disagree  
☐ Strongly Disagree

13. I had enough time to rate all of the items assigned to me. \*

*Mark only one oval.*

- ☐ Strongly Agree  
☐ Agree  
☐ Disagree  
☐ Strongly Disagree

14. I can defend why I aligned each item as I did. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

15. I understood how to use the Workshop Website on Moodle and the linked materials. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

16. I felt the group discussion was meaningful. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

17. Participating in the workshop increased my understanding of the assessment I worked on. \*

*Mark only one oval.*

- ☐ Strongly Agree  
☐ Agree  
☐ Disagree  
☐ Strongly Disagree

18. Participating in the workshop increased my understanding of the content standards. \*

*Mark only one oval.*

- ☐ Strongly Agree  
☐ Agree  
☐ Disagree  
☐ Strongly Disagree

19. The work space was appropriate to facilitate our work. \*

*Mark only one oval.*

- ☐ Strongly Agree  
☐ Agree  
☐ Disagree  
☐ Strongly Disagree

20. The workshop's organization made sense to me. \*

*Mark only one oval.*

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

### Demographic Information

21. What type of community do you represent \*

*Mark only one oval.*

- ☐ Urban
- ☐ Suburban
- ☐ Town
- ☐ Rural

22. What title best describes your role? \*

*Mark only one oval.*

- ☐ General Education Classroom Teacher
- ☐ Special Education Classroom Teacher
- ☐ Building Administrator
- ☐ District Administrator
- ☐ Curriculum Specialist
- ☐ Non-classroom Teacher

23. How many years have you served in this role? \*

*Mark only one oval.*

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ 6

☐ 7

☐ 8

☐ 9

☐ 10

☐ 11

☐ 12

☐ 13

☐ 14

☐ 15

☐ 16

☐ 17

☐ 18

☐ 19

☐ 20

☐ 21

☐ 22

☐ 23

☐ 24

☐ More than 24



24. How many years have you taught in North Carolina schools? \*

*Mark only one oval.*

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10
- ☐ 11
- ☐ 12
- ☐ 13
- ☐ 14
- ☐ 15
- ☐ 16
- ☐ 17
- ☐ 18
- ☐ 19
- ☐ 20
- ☐ 21
- ☐ 22
- ☐ 23
- ☐ 24
- ☐ More than 24

25. Please check all of the following in which you have experience: \*

*Check all that apply.*

- ☐ Mathematics Instruction
- ☐ ELA Instruction
- ☐ Reading or Literacy Intervention/Support
- ☐ Science Instruction
- ☐ Instruction of Students with Significant Cognitive Disabilities
- ☐ Instruction of English Learners
- ☐ Instruction of English Learners with Disabilities
- ☐ Other...

26. With what gender do you identify? \*

*Mark only one oval.*

- ☐ Prefer not to say
- ☐ Female
- ☐ Male
- ☐ Non-binary

27. Are you of Hispanic origin? \*

*Mark only one oval.*

- ☐ Prefer not to say
- ☐ Yes
- ☐ No

28. With what group do you identify? \*

*Mark only one oval.*

- ☐ Prefer not to say
- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African-American
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White or Caucasian
- ☐ Multiple Races

Your Turn

We appreciate you! Thank you for your participation!

29. Please share any comments or suggestions related to the workshop

---

---

---

---

---

---

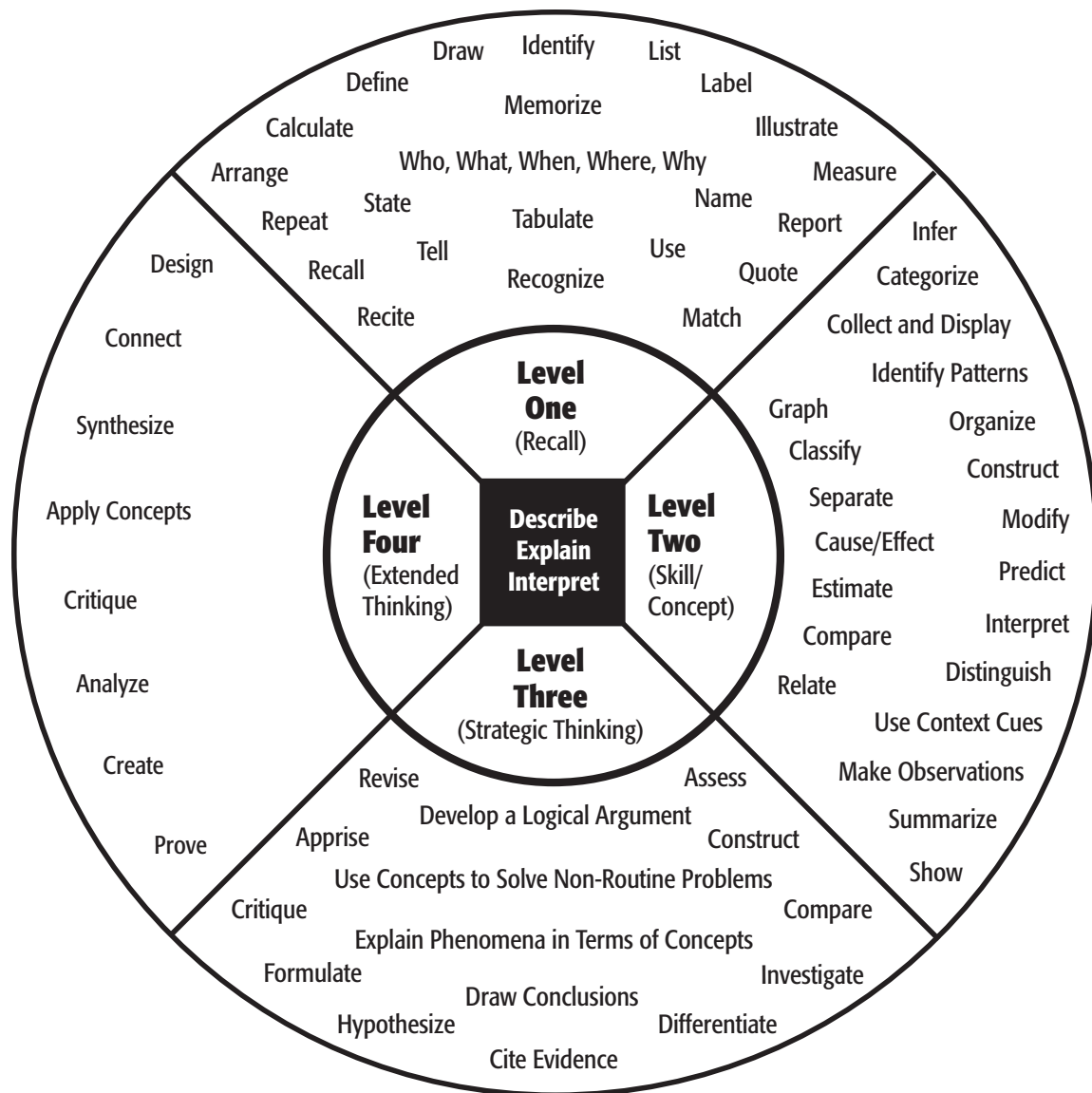
This content is neither created nor endorsed by Google.

Google Forms



## **Appendix G – DOK**

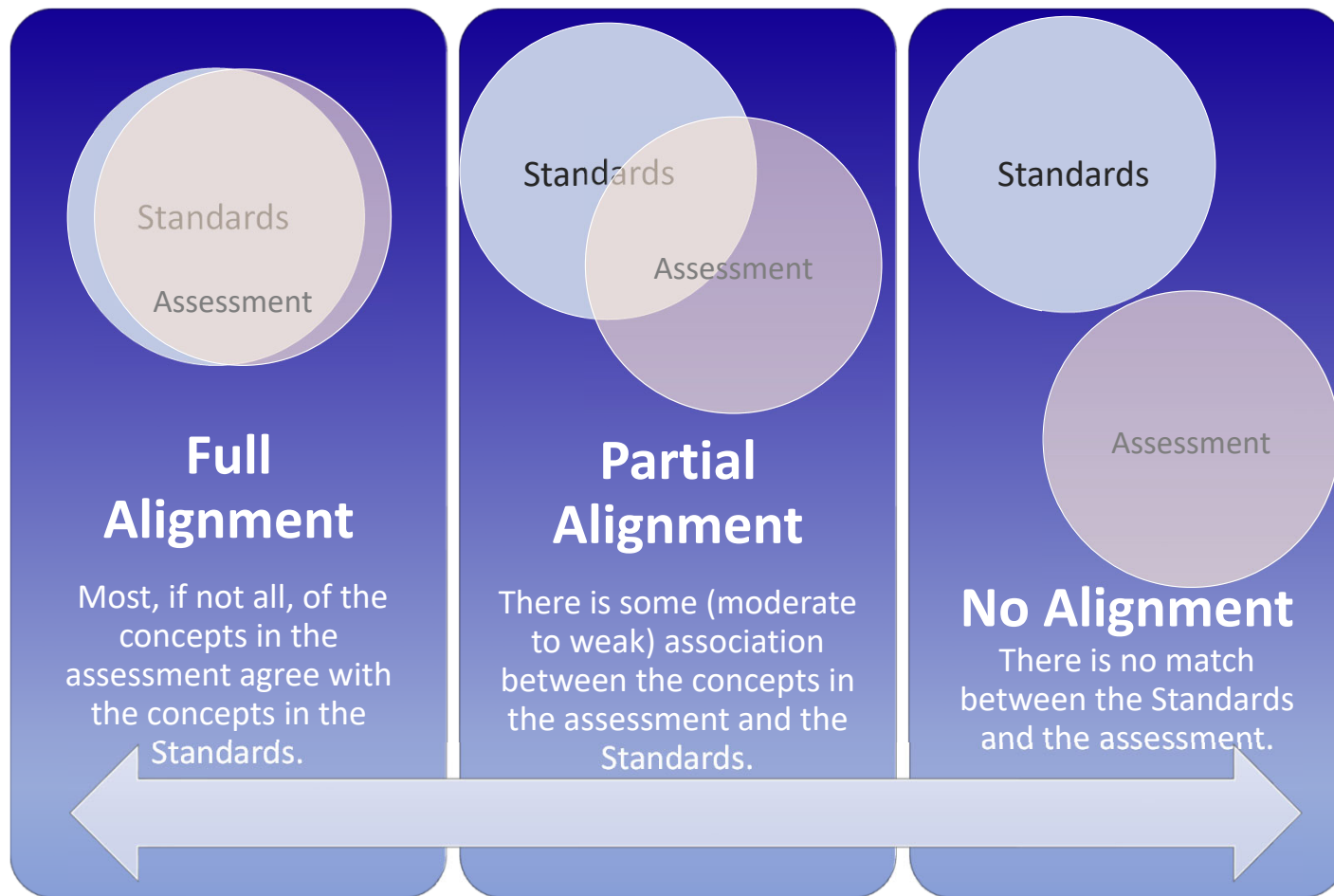
# Depth of Knowledge (DOK) Levels



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
<p>Recall elements and details of story structure, such as sequence of events, character, plot and setting.</p> <p>Conduct basic mathematical calculations.</p> <p>Label locations on a map.</p> <p>Represent in words or diagrams a scientific concept or relationship.</p> <p>Perform routine procedures like measuring length or using punctuation marks correctly.</p> <p>Describe the features of a place or people.</p>	<p>Identify and summarize the major events in a narrative.</p> <p>Use context cues to identify the meaning of unfamiliar words.</p> <p>Solve routine multiple-step problems.</p> <p>Describe the cause/effect of a particular event.</p> <p>Identify patterns in events or behavior.</p> <p>Formulate a routine problem given data and conditions.</p> <p>Organize, represent and interpret data.</p>	<p>Support ideas with details and examples.</p> <p>Use voice appropriate to the purpose and audience.</p> <p>Identify research questions and design investigations for a scientific problem.</p> <p>Develop a scientific model for a complex situation.</p> <p>Determine the author's purpose and describe how it affects the interpretation of a reading selection.</p> <p>Apply a concept in other contexts.</p>	<p>Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/solutions.</p> <p>Apply mathematical model to illuminate a problem or situation.</p> <p>Analyze and synthesize information from multiple sources.</p> <p>Describe and illustrate how common themes are found across texts from different cultures.</p> <p>Design a mathematical model to inform and solve a practical or abstract situation.</p>

## **Appendix H – Other Alignment Materials**

- Alignment Strength Schematic
- State standards and PLDs/ALDs
  - These files (standards and PLDs/ALDs) are posted on the NCDPI's website and were provided to teachers in print form and in electronic form.





## **Appendix I – Detailed Alignment Results**

ELA Detailed Results

**Table 1: Detailed Results, ELA 3 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	3	RL.3.1	Partial	1 - Recall	Level 3		RL.3.1
2	N	3	RL.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.1
3	N	3	RL.3.1	Partial	2 - Skill/Concept	Level 4	RL.3.4	RL.3.4
4	N	3	L.3.4	Partial	2 - Skill/Concept	Level 3		RL.3.4
5	N	3	RL.3.3	Partial	2 - Skill/Concept	Level 3		RL.3.1
6	N	3	RL.3.3	Partial	3 - Strategic Thinking	Level 5	RL.3.2	RL.3.3
7	N	3	RL.3.2	Partial	3 - Strategic Thinking	Level 4		RL.3.2
8	N	3	RL.3.2	Partial	3 - Strategic Thinking	Level 4		RL.3.2
9	N	3	L.3.4	Partial	2 - Skill/Concept	Level 4		RI.3.4
10	N	3	RI.3.3	Partial	2 - Skill/Concept	Level 4		RI.3.1
11	N	3	RI.3.3	Partial	2 - Skill/Concept	Level 4		RI.3.3
12	N	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		L.3.4
13	N	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		L.3.4
14	N	3	RI.3.1	Partial	2 - Skill/Concept	Level 4		RI.3.1
15	N	3	RI.3.2	Partial	3 - Strategic Thinking	Level 5		RI.3.2
16	N	3	RI.3.2	Partial	3 - Strategic Thinking	Level 5		RI.3.2
17	N	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		RL.3.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
18	N	3	RL.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.3
19	N	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		L.3.5.a
20	N	3	RL.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.3
21	N	3	RL.3.1	Partial	2 - Skill/Concept	Level 4	L.3.5.a	RL.3.1
22	N	3	RL.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.1
23	N	3	RL.3.3	Full	2 - Skill/Concept	Level 4		RL.3.3
24	N	3	RL.3.2	Partial	3 - Strategic Thinking	Level 5		RL.3.2
25	N	3	RI.3.3	Partial	1 - Recall	Level 3		RI.3.1
26	N	3	L.3.4	Partial	2 - Skill/Concept	Level 4		RI.3.4
27	N	3	L.3.5.a	Full	2 - Skill/Concept	Level 5		L.3.4
28	N	3	RI.3.8	Full	3 - Strategic Thinking	Level 4		RI.3.8
29	N	3	L.3.4	Full	2 - Skill/Concept	Level 4	L.3.5.a	L.3.5.a
30	N	3	RI.3.2	Partial	3 - Strategic Thinking	Level 5		RI.3.2
31	N	3	RI.3.2	Partial	3 - Strategic Thinking	Level 5		RI.3.2
32	N	3	RI.3.2	Partial	3 - Strategic Thinking	Level 5		RI.3.2
33	N	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1
34	N	3	RI.3.3	Partial	1 - Recall	Level 3		RI.3.1
35	N	3	RI.3.3	Partial	1 - Recall	Level 3		RI.3.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
36	N	3	RI.3.8	Partial	2 - Skill/Concept	Level 4		RI.3.8
37	N	3	L.3.4	Partial	2 - Skill/Concept	Level 4		RI.3.4
38	N	3	RI.3.3	Partial	2 - Skill/Concept	Level 3		RI.3.1
39	N	3	RI.3.3	Partial	3 - Strategic Thinking	Level 5		RI.3.1
40	N	3	RI.3.2	Partial	3 - Strategic Thinking	Level 5		RI.3.2

**Table 2: Detailed Results, ELA 3 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	3	RL.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.1
2	O	3	L.3.5.a	Partial	2 - Skill/Concept	Level 4		RL.3.4
3	O	3	L.3.4	Partial	2 - Skill/Concept	Level 4		RL.3.4
4	O	3	RL.3.1	Partial	2 - Skill/Concept	Level 3		RL.3.3
5	O	3	RL.3.1	Partial	1 - Recall	Level 3		RL.3.1
6	O	3	RL.3.3	Partial	3 - Strategic Thinking	Level 4		RL.3.3
7	O	3	RL.3.2	Partial	3 - Strategic Thinking	Level 5		RL.3.2
8	O	3	RL.3.3	Partial	3 - Strategic Thinking	Level 5		RL.3.3
9	O	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1
10	O	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
11	O	3	L.3.4	Partial	2 - Skill/Concept	Level 4		L.3.4
12	O	3	RI.3.8	Full	2 - Skill/Concept	Level 4		RI.3.1
13	O	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		L.3.5.a
14	O	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1
15	O	3	RI.3.2	Partial	3 - Strategic Thinking	Level 5		RI.3.2
16	O	3	RI.3.2	Partial	3 - Strategic Thinking	Level 5		RI.3.2
17	O	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		L.3.4
18	O	3	RI.3.4	Full	2 - Skill/Concept	Level 4		RI.3.4
19	O	3	RI.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.3
20	O	3	RI.3.2	Partial	2 - Skill/Concept	Level 5	RI.3.8	RI.3.2
21	O	3	RI.3.8	Full	2 - Skill/Concept	Level 5		RI.3.8
22	O	3	RI.3.3	Partial	2 - Skill/Concept	Level 4		RI.3.1
23	O	3	RI.3.7	Partial	2 - Skill/Concept	Level 4	RI.3.3	RI.3.3
24	O	3	RI.3.2	Partial	3 - Strategic Thinking	Level 4		RI.3.1
25	O	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		L.3.5.a
26	O	3	RL.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.1
27	O	3	RL.3.1	Partial	1 - Recall	Level 3		RL.3.4
28	O	3	RL.3.1	Partial	1 - Recall	Level 3		RL.3.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
29	O	3	RL.3.3	Full	3 - Strategic Thinking	Level 4		RL.3.3
30	O	3	RL.3.3	Full	3 - Strategic Thinking	Level 4		RL.3.3
31	O	3	RL.3.2	Partial	3 - Strategic Thinking	Level 4		RL.3.2
32	O	3	RL.3.2	Partial	3 - Strategic Thinking	Level 5		RL.3.2
33	O	3	L.3.4	Partial	2 - Skill/Concept	Level 4		L.3.4
34	O	3	RI.3.3	Partial	2 - Skill/Concept	Level 4		RI.3.1
35	O	3	L.3.4	Partial	2 - Skill/Concept	Level 4		RI.3.4
36	O	3	RI.3.3	Partial	1 - Recall	Level 3		L.3.5.a
37	O	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1
38	O	3	RI.3.8	Full	3 - Strategic Thinking	Level 4		RI.3.8
39	O	3	RI.3.3	Partial	2 - Skill/Concept	Level 4		RI.3.3
40	O	3	RI.3.2	Partial	1 - Recall	Level 3		RI.3.1

**Table 3: Detailed Results, ELA 3 Form P**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	P	3	L.3.4	Partial	2 - Skill/Concept	Level 4		L.3.4
2	P	3	RL.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.1
3	P	3	L.3.4	Partial	2 - Skill/Concept	Level 4		RL.3.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
4	P	3	RL.3.3	Partial	3 - Strategic Thinking	Level 4		RL.3.1
5	P	3	RL.3.2	Partial	2 - Skill/Concept	Level 4		RL.3.1
6	P	3	RL.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.2
7	P	3	RL.3.3	Partial	3 - Strategic Thinking	Level 4		RL.3.3
8	P	3	RL.3.3	Partial	3 - Strategic Thinking	Level 4		RL.3.3
9	P	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		L.3.5.a
10	P	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		L.3.4
11	P	3	RI.3.8	Full	3 - Strategic Thinking	Level 4		RI.3.8
12	P	3	RI.3.3	Partial	1 - Recall	Level 3		RI.3.3
13	P	3	L.3.4	Partial	2 - Skill/Concept	Level 4		L.3.4
14	P	3	RI.3.2	Full	3 - Strategic Thinking	Level 4		RI.3.2
15	P	3	RI.3.2	Partial	2 - Skill/Concept	Level 4		RI.3.2
16	P	3	RI.3.3	Partial	2 - Skill/Concept	Level 4		RI.3.3
17	P	3	RL.3.1	Partial	2 - Skill/Concept	Level 4		RL.3.1
18	P	3	RL.3.1	Partial	2 - Skill/Concept	Level 3		RL.3.1
19	P	3	RL.3.1	Partial	2 - Skill/Concept	Level 3		RL.3.1
20	P	3	RL.3.1	Partial	1 - Recall	Level 3		RL.3.1
21	P	3	RL.3.3	Partial	2 - Skill/Concept	Level 4	RL.3.4	RL.3.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
22	P	3	RL.3.3	Partial	2 - Skill/Concept	Level 4		RL.3.1
23	P	3	RL.3.2	Partial	3 - Strategic Thinking	Level 4		RL.3.2
24	P	3	RL.3.2	Partial	2 - Skill/Concept	Level 4		RL.3.2
25	P	3	L.3.5.a	Full	2 - Skill/Concept	Level 4		L.3.4
26	P	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1
27	P	3	RI.3.8	Full	3 - Strategic Thinking	Level 4		RI.3.8
28	P	3	RI.3.2	Partial	2 - Skill/Concept	Level 4		RI.3.1
29	P	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1
30	P	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1
31	P	3	RI.3.3	Partial	3 - Strategic Thinking	Level 3		RI.3.3
32	P	3	RI.3.2	Partial	3 - Strategic Thinking	Level 4		RI.3.2
33	P	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1
34	P	3	L.3.4	Partial	2 - Skill/Concept	Level 4		RI.3.4
35	P	3	RI.3.1	Partial	2 - Skill/Concept	Level 4		RI.3.3
36	P	3	RI.3.1	Partial	1 - Recall	Level 3		RI.3.1
37	P	3	RI.3.3	Partial	1 - Recall	Level 3		RI.3.3
38	P	3	RI.3.3	Partial	2 - Skill/Concept	Level 4		RI.3.1
39	P	3	RI.3.3	Partial	2 - Skill/Concept	Level 3		RI.3.3



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
40	P	3	RI.3.3	Partial	2 - Skill/Concept	Level 5		RI.3.8

**Table 4: Detailed Results, ELA 4 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	4	RI.4.3	Partial	2 - Skill/Concept	Level 4		RI.4.1
2	M	4	RI.4.3	Partial	2 - Skill/Concept	Level 3		RI.4.3
3	M	4	L.4.4	Partial	2 - Skill/Concept	Level 4		L.4.4
4	M	4	RI.4.4	Partial	2 - Skill/Concept	Level 4		L.4.4
5	M	4	RI.4.3	Partial	2 - Skill/Concept	Level 4		RI.4.3
6	M	4	RI.4.3	Partial	1 - Recall	Level 3		RI.4.3
7	M	4	RI.4.2	Partial	3 - Strategic Thinking	Level 4		RI.4.2
8	M	4	RI.4.5	Partial	2 - Skill/Concept	Level 3		RI.4.5
9	M	4	RL.4.2	Partial	2 - Skill/Concept	Level 4		RL.4.2
10	M	4	RL.4.3	Partial	2 - Skill/Concept	Level 4		RL.4.3
11	M	4	L.4.4	Partial	2 - Skill/Concept	Level 4		RL.4.4
12	M	4	RL.4.3	Partial	3 - Strategic Thinking	Level 4		RL.4.3
13	M	4	RL.4.3	Partial	2 - Skill/Concept	Level 4		RL.4.3
14	M	4	RL.4.3	Partial	2 - Skill/Concept	Level 4		RL.4.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
15	M	4	RL.4.3	Partial	2 - Skill/Concept	Level 4		RL.4.1
16	M	4	RL.4.2	Partial	3 - Strategic Thinking	Level 4		RL.4.2
17	M	4	RI.4.2	Partial	3 - Strategic Thinking	Level 5		RI.4.2
18	M	4	RI.4.2	Partial	3 - Strategic Thinking	Level 5		RI.4.2
19	M	4	L.4.4	Partial	2 - Skill/Concept	Level 4		RI.4.4
20	M	4	L.4.4	Partial	2 - Skill/Concept	Level 4		RI.4.4
21	M	4	L.4.5.a	Partial	3 - Strategic Thinking	Level 5		L.4.5.a
22	M	4	RI.4.3	Partial	1 - Recall	Level 4		RI.4.1
23	M	4	RI.4.8	Partial	2 - Skill/Concept	Level 4		RI.4.1
24	M	4	RI.4.3	Partial	2 - Skill/Concept	Level 4		RI.4.1
25	M	4	RI.4.2	Partial	3 - Strategic Thinking	Level 4		RI.4.2
26	M	4	RI.4.3	Partial	2 - Skill/Concept	Level 4		RI.4.1
27	M	4	RI.4.1	Partial	2 - Skill/Concept	Level 4		RI.4.1
28	M	4	RI.4.1	Partial	2 - Skill/Concept	Level 4		RI.4.1
29	M	4	L.4.4	Partial	2 - Skill/Concept	Level 4		RI.4.4
30	M	4	L.4.4	Partial	2 - Skill/Concept	Level 4		RI.4.4
31	M	4	RI.4.3	Partial	2 - Skill/Concept	Level 4		RI.4.1
32	M	4	RI.4.4	Partial	1 - Recall	Level 3		L.4.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
33	M	4	RL.4.2	Partial	3 - Strategic Thinking	Level 5		RL.4.2
34	M	4	RL.4.3	Partial	2 - Skill/Concept	Level 4		RL.4.1
35	M	4	L.4.4	Partial	2 - Skill/Concept	Level 4		L.4.4
36	M	4	RL.4.3	Partial	2 - Skill/Concept	Level 4		RL.4.1
37	M	4	RL.4.3	Partial	2 - Skill/Concept	Level 4		RL.4.3
38	M	4	RL.4.3	Partial	3 - Strategic Thinking	Level 4		RL.4.3
39	M	4	RL.4.2	Partial	3 - Strategic Thinking	Level 4		RL.4.2
40	M	4	RL.4.2	Partial	3 - Strategic Thinking	Level 4		RL.4.2

**Table 5: Detailed Results, ELA 4 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	4	RI.4.2	Partial	3 - Strategic Thinking	Level 4		RI.4.2
2	N	4	L.4.5.a	Partial	2 - Skill/Concept	Level 4		L.4.5.a
3	N	4	RI.4.3	Partial	2 - Skill/Concept	Level 4		RI.4.1
4	N	4	L.4.5.a	Partial	2 - Skill/Concept	Level 4		L.4.5.a
5	N	4	RI.4.3	Partial	1 - Recall	Level 3		RI.4.3
6	N	4	L.4.4	Partial	2 - Skill/Concept	Level 4		L.4.4
7	N	4	RI.4.8	Partial	2 - Skill/Concept	Level 4		RI.4.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
8	N	4	RI.4.5	Partial	2 - Skill/Concept	Level 3		RI.4.5
9	N	4	RL.4.2	Partial	3 - Strategic Thinking	Level 5		RL.4.2
10	N	4	RL.4.2	Partial	3 - Strategic Thinking	Level 5		RL.4.2
11	N	4	RL.4.3	Partial	3 - Strategic Thinking	Level 4		RL.4.1
12	N	4	RL.4.3	Partial	3 - Strategic Thinking	Level 4		RL.4.3
13	N	4	RL.4.4	Full	2 - Skill/Concept	Level 4		L.4.4
14	N	4	RL.4.3	Partial	2 - Skill/Concept	Level 4	RL.4.4	RL.4.3
15	N	4	RL.4.2	Partial	2 - Skill/Concept	Level 4		RL.4.2
16	N	4	RL.4.1	Partial	2 - Skill/Concept	Level 4		RL.4.1
17	N	4	RI.4.2	Partial	3 - Strategic Thinking	Level 5		RI.4.2
18	N	4	RI.4.8	Full	3 - Strategic Thinking	Level 4		RI.4.1
19	N	4	RI.4.1	Partial	1 - Recall	Level 3		RI.4.1
20	N	4	RI.4.3	Partial	2 - Skill/Concept	Level 4		RI.4.3
21	N	4	L.4.4	Partial	2 - Skill/Concept	Level 4		L.4.4
22	N	4	RI.4.3	Partial	2 - Skill/Concept	Level 4		RI.4.1
23	N	4	RI.4.8	Partial	3 - Strategic Thinking	Level 4		RI.4.8
24	N	4	RI.4.2	Partial	3 - Strategic Thinking	Level 4		RI.4.2
25	N	4	RI.4.2	Partial	3 - Strategic Thinking	Level 4		RI.4.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
26	N	4	RI.4.5	Partial	2 - Skill/Concept	Level 4		RI.4.5
27	N	4	L.4.4	Partial	2 - Skill/Concept	Level 4		L.4.4
28	N	4	RI.4.8	Full	2 - Skill/Concept	Level 4		RI.4.8
29	N	4	RI.4.1	Partial	2 - Skill/Concept	Level 4		RI.4.1
30	N	4	RI.4.1	Partial	1 - Recall	Level 4		RI.4.3
31	N	4	RI.4.1	Partial	1 - Recall	Level 4		RI.4.1
32	N	4	L.4.4	Partial	2 - Skill/Concept	Level 4		RI.4.4
33	N	4	RL.4.3	Partial	2 - Skill/Concept	Level 4		RL.4.3
34	N	4	RL.4.3	Partial	3 - Strategic Thinking	Level 4		RL.4.3
35	N	4	RL.4.3	Partial	3 - Strategic Thinking	Level 4		RL.4.1
36	N	4	RL.4.3	Partial	3 - Strategic Thinking	Level 4		RL.4.1
37	N	4	RL.4.1	Partial	2 - Skill/Concept	Level 4		RL.4.1
38	N	4	RL.4.1	Partial	2 - Skill/Concept	Level 4		RL.4.1
39	N	4	RL.4.3	Partial	2 - Skill/Concept	Level 3		RL.4.1
40	N	4	RL.4.2	Partial	3 - Strategic Thinking	Level 4		RL.4.2

**Table 6: Detailed Results, ELA 5 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	5	RL.5.2	Partial	3 - Strategic Thinking	Level 5		RL.5.2
2	M	5	RL.5.4	Full	2 - Skill/Concept	Level 4		L.5.5.a
3	M	5	RL.5.6	Full	3 - Strategic Thinking	Level 4		RL.5.6
4	M	5	RL.5.2	Partial	2 - Skill/Concept	Level 4		RL.5.1
5	M	5	RL.5.1	Full	2 - Skill/Concept	Level 4		RL.5.3
6	M	5	RL.5.2	Partial	3 - Strategic Thinking	Level 4		RL.5.1
7	M	5	RL.5.2	Partial	2 - Skill/Concept	Level 4		RL.5.1
8	M	5	RL.5.6	Full	2 - Skill/Concept	Level 4		RL.5.6
9	M	5	RI.5.2	Partial	3 - Strategic Thinking	Level 4		RI.5.2
10	M	5	L.5.5.a	Full	2 - Skill/Concept	Level 4		L.5.5.a
11	M	5	RI.5.3	Full	1 - Recall	Level 3		RI.5.1
12	M	5	L.5.5.a	Full	2 - Skill/Concept	Level 4		RI.5.4
13	M	5	L.5.4	Partial	2 - Skill/Concept	Level 4		L.5.4
14	M	5	RI.5.3	Partial	2 - Skill/Concept	Level 4		RI.5.1
15	M	5	RI.5.2	Full	3 - Strategic Thinking	Level 4		RI.5.2
16	M	5	RI.5.8	Partial	2 - Skill/Concept	Level 3		RI.5.8
17	M	5	RI.5.8	Full	2 - Skill/Concept	Level 3		RI.5.1
18	M	5	RI.5.8	Full	2 -	Level		RI.5.8

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept	3		
19	M	5	RI.5.3	Full	1 - Recall	Level 3		RI.5.3
20	M	5	RI.5.1	Full	2 - Skill/Concept	Level 4		RI.5.1
21	M	5	RI.5.4	Full	2 - Skill/Concept	Level 4		RI.5.4
22	M	5	RI.5.5	Partial	2 - Skill/Concept	Level 3		RI.5.8
23	M	5	RI.5.3	Full	2 - Skill/Concept	Level 3		RI.5.3
24	M	5	L.5.4	Full	2 - Skill/Concept	Level 4		RI.5.4
25	M	5	RL.5.2	Partial	3 - Strategic Thinking	Level 4		RL.5.2
26	M	5	RL.5.3	Partial	2 - Skill/Concept	Level 4		RL.5.3
27	M	5	RL.5.3	Partial	2 - Skill/Concept	Level 4		RL.5.1
28	M	5	L.5.4	Partial	2 - Skill/Concept	Level 4		RL.5.4
29	M	5	RL.5.2	Partial	2 - Skill/Concept	Level 4		RL.5.1
30	M	5	RL.5.2	Partial	3 - Strategic Thinking	Level 4		RL.5.2
31	M	5	RL.5.2	Partial	2 - Skill/Concept	Level 4		RL.5.3
32	M	5	RL.5.3	Full	2 - Skill/Concept	Level 4		RL.5.3
33	M	5	RI.5.2	Partial	3 - Strategic Thinking	Level 4		RI.5.2
34	M	5	L.5.4	Partial	2 - Skill/Concept	Level 4		L.5.4
35	M	5	RI.5.1	Partial	2 - Skill/Concept	Level 4		RI.5.1
36	M	5	L.5.4	Partial	2 -	Level		L.5.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept	4		
37	M	5	RI.5.5	Partial	3 - Strategic Thinking	Level 4		RI.5.3
38	M	5	RI.5.4	Full	2 - Skill/Concept	Level 4		RI.5.4
39	M	5	RI.5.1	Partial	2 - Skill/Concept	Level 4		RI.5.3
40	M	5	RI.5.8	Full	2 - Skill/Concept	Level 4		RI.5.8

**Table 7: Detailed Results, ELA 5 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	5	RL.5.2	Partial	3 - Strategic Thinking	Level 4		RL.5.2
2	N	5	RL.5.3	Full	2 - Skill/Concept	Level 3		RL.5.3
3	N	5	RL.5.1	Full	3 - Strategic Thinking	Level 4		RL.5.4
4	N	5	RL.5.1	Full	3 - Strategic Thinking	Level 4		RL.5.1
5	N	5	RL.5.6	Full	2 - Skill/Concept	Level 4		RL.5.6
6	N	5	RL.5.2	Partial	3 - Strategic Thinking	Level 4		RL.5.2
7	N	5	RL.5.1	Full	2 - Skill/Concept	Level 3		RL.5.1
8	N	5	L.5.5.a	Full	3 - Strategic Thinking	Level 4		L.5.5.a
9	N	5	RI.5.2	Partial	3 - Strategic Thinking	Level 3		RI.5.2
10	N	5	L.5.4	Full	2 - Skill/Concept	Level 3		RI.5.4
11	N	5	L.5.4	Full	2 - Skill/Concept	Level 3		L.5.4



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
12	N	5	L.5.5.a	Full	2 - Skill/Concept	Level 4		L.5.5.a
13	N	5	RI.5.1	Full	3 - Strategic Thinking	Level 4		RI.5.1
14	N	5	RI.5.8	Full	3 - Strategic Thinking	Level 3		RI.5.1
15	N	5	RI.5.8	Full	2 - Skill/Concept	Level 3		RI.5.8
16	N	5	L.5.4	Full	2 - Skill/Concept	Level 3		L.5.4
17	N	5	RI.5.2	Partial	3 - Strategic Thinking	Level 4		RI.5.2
18	N	5	RI.5.8	Full	2 - Skill/Concept	Level 3		RI.5.1
19	N	5	RI.5.3	Full	2 - Skill/Concept	Level 3		RI.5.3
20	N	5	RI.5.8	Full	1 - Recall	Level 3		RI.5.8
21	N	5	RI.5.8	Full	1 - Recall	Level 3		RI.5.8
22	N	5	RI.5.8	Full	2 - Skill/Concept	Level 3		RI.5.3
23	N	5	RI.5.1	Full	3 - Strategic Thinking	Level 4		RI.5.1
24	N	5	RI.5.8	Full	3 - Strategic Thinking	Level 4		RI.5.8
25	N	5	RL.5.2	Full	3 - Strategic Thinking	Level 4		RL.5.2
26	N	5	RL.5.6	Full	3 - Strategic Thinking	Level 4		RL.5.6
27	N	5	RL.5.4	Partial	2 - Skill/Concept	Level 3		RL.5.4
28	N	5	RL.5.4	Full	2 - Skill/Concept	Level 3		RL.5.1
29	N	5	RL.5.6	Partial	2 - Skill/Concept	Level 4		RL.5.6

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
30	N	5	RL.5.1	Full	2 - Skill/Concept	Level 3		RL.5.1
31	N	5	RL.5.4	Full	2 - Skill/Concept	Level 3		RL.5.4
32	N	5	RL.5.4	Partial	2 - Skill/Concept	Level 3		RL.5.6
33	N	5	RI.5.8	Partial	3 - Strategic Thinking	Level 4		RI.5.8
34	N	5	RI.5.1	Full	2 - Skill/Concept	Level 3		RI.5.1
35	N	5	L.5.4	Full	2 - Skill/Concept	Level 3		L.5.4
36	N	5	RI.5.3	Partial	3 - Strategic Thinking	Level 4		RI.5.1
37	N	5	L.5.4	Full	2 - Skill/Concept	Level 3		RI.5.4
38	N	5	RI.5.8	Full	2 - Skill/Concept	Level 3		RI.5.8
39	N	5	RI.5.3	Full	2 - Skill/Concept	Level 3		RI.5.3
40	N	5	RI.5.3	Full	2 - Skill/Concept	Level 3		RI.5.4

**Table 8: Detailed Results, ELA 5 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	5	RL.5.3	Full	2 - Skill/Concept	Level 3		RL.5.3
2	O	5	RL.5.1	Full	1 - Recall	Level 3		RL.5.3
3	O	5	RL.5.3	Full	2 - Skill/Concept	Level 4		RL.5.3
4	O	5	RL.5.2	Partial	3 - Strategic Thinking	Level 4		RL.5.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
5	O	5	RL.5.1	Full	1 - Recall	Level 3		RL.5.3
6	O	5	RL.5.6	Full	2 - Skill/Concept	Level 3		RL.5.6
7	O	5	RL.5.1	Full	2 - Skill/Concept	Level 4		RL.5.1
8	O	5	RL.5.2	Full	1 - Recall	Level 3		RL.5.2
9	O	5	RI.5.2	Full	2 - Skill/Concept	Level 4		RI.5.2
10	O	5	RI.5.8	Full	1 - Recall	Level 3		RI.5.8
11	O	5	L.5.4	Full	2 - Skill/Concept	Level 4		L.5.4
12	O	5	RI.5.8	Full	2 - Skill/Concept	Level 4		RI.5.8
13	O	5	RI.5.1	Full	2 - Skill/Concept	Level 4		RI.5.1
14	O	5	RI.5.1	Full	2 - Skill/Concept	Level 4		RI.5.4
15	O	5	L.5.4	Full	2 - Skill/Concept	Level 4		L.5.4
16	O	5	RI.5.3	Full	2 - Skill/Concept	Level 4		RI.5.3
17	O	5	RL.5.2	Full	3 - Strategic Thinking	Level 5		RL.5.2
18	O	5	RL.5.1	Full	3 - Strategic Thinking	Level 4		RL.5.1
19	O	5	L.5.4	Full	2 - Skill/Concept	Level 4		L.5.4
20	O	5	RL.5.1	Partial	3 - Strategic Thinking	Level 4		RL.5.1
21	O	5	RL.5.1	Full	2 - Skill/Concept	Level 4		RL.5.1
22	O	5	RL.5.1	Partial	2 - Skill/Concept	Level 4		RL.5.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
23	O	5	RL.5.3	Partial	2 - Skill/Concept	Level 4		RL.5.3
24	O	5	RL.5.3	Partial	2 - Skill/Concept	Level 4		RL.5.3
25	O	5	RI.5.2	Partial	3 - Strategic Thinking	Level 4		RI.5.2
26	O	NA	NA	Partial	2 - Skill/Concept	Level 3		RI.5.1
27	O	5	RI.5.8	Partial	2 - Skill/Concept	Level 4		RI.5.8
28	O	5	RI.5.8	Partial	2 - Skill/Concept	Level 4		RI.5.8
29	O	5	RI.5.3	Partial	2 - Skill/Concept	Level 4		RI.5.3
30	O	5	RI.5.3	Partial	2 - Skill/Concept	Level 4		RI.5.3
31	O	5	RI.5.8	Partial	2 - Skill/Concept	Level 4		RI.5.1
32	O	5	RI.5.2	Partial	3 - Strategic Thinking	Level 4		RI.5.2
33	O	5	RI.5.2	Partial	3 - Strategic Thinking	Level 4		RI.5.2
34	O	5	RI.5.1	Full	2 - Skill/Concept	Level 4		RI.5.1
35	O	NA	NA	Partial	2 - Skill/Concept	Level 4		RI.5.4
36	O	5	L.5.4	Full	2 - Skill/Concept	Level 4		L.5.4
37	O	5	RI.5.8	Partial	2 - Skill/Concept	Level 4		RI.5.8
38	O	5	L.5.4	Full	2 - Skill/Concept	Level 4		L.5.4
39	O	NA	NA	Partial	2 - Skill/Concept	Level 4		RI.5.1
40	O	5	RI.5.3	Partial	3 - Strategic Thinking	Level 4		RI.5.3

**Table 9: Detailed Results, ELA 6 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	6	RI.6.6	Full	2 - Skill/Concept	Level 4		RI.6.5
2	M	6	RI.6.4	Full	2 - Skill/Concept	Level 3		RI.6.4
3	M	6	RI.6.8	Partial	2 - Skill/Concept	Level 4		RI.6.8
4	M	6	RI.6.3	Partial	2 - Skill/Concept	Level 4		RI.6.3
5	M	6	RI.6.3	Partial	2 - Skill/Concept	Level 4		RI.6.3
6	M	6	L.6.4	Full	2 - Skill/Concept	Level 3		L.6.4
7	M	6	RI.6.1	Partial	3 - Strategic Thinking	Level 4		RI.6.1
8	M	NA	NA				NA	RI.6.6
9	M	6	RL.6.2	Partial	3 - Strategic Thinking	Level 4		RL.6.2
10	M	6	RL.6.5	Full	2 - Skill/Concept	Level 3		RL.6.5
11	M	6	RI.6.3	Partial	3 - Strategic Thinking	Level 4		RL.6.3
12	M	6	RL.6.4	Full	3 - Strategic Thinking	Level 4		RL.6.4
13	M	6	RL.6.3	Partial	3 - Strategic Thinking	Level 4		RL.6.3
14	M	6	RL.6.6	Full	2 - Skill/Concept	Level 3		RL.6.6
15	M	6	RL.6.1	Partial	3 - Strategic Thinking	Level 4		RL.6.3
16	M	6	RL.6.5	Partial	3 - Strategic Thinking	Level 4		RL.6.5
17	M	6	RL.6.2	Partial	3 - Strategic Thinking	Level 4		RL.6.2
18	M	6	L.6.4	Full	2 - Skill/Concept	Level 3		L.6.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
19	M	6	RL.6.5	Full	2 - Skill/Concept	Level 3		RL.6.5
20	M	6	L.6.5.a	Full	2 - Skill/Concept	Level 3		L.6.5.a
21	M	6	RL.6.1	Full	2 - Skill/Concept	Level 3		RL.6.1
22	M	6	RI.6.2	Full	2 - Skill/Concept	Level 3		RI.6.2
23	M	6	RI.6.5	Partial	3 - Strategic Thinking	Level 4		RI.6.5
24	M	6	RI.6.5	Full	3 - Strategic Thinking	Level 4		L.6.5.a
25	M	6	RI.6.8	Partial	2 - Skill/Concept	Level 4		RI.6.8
26	M	6	RI.6.5	Full	3 - Strategic Thinking	Level 4		RI.6.3
27	M	6	RI.6.1	Partial	3 - Strategic Thinking	Level 4		RI.6.1
28	M	6	RI.6.6	Partial	3 - Strategic Thinking	Level 4		RI.6.6
29	M	6	RL.6.1	Full	2 - Skill/Concept	Level 4		RL.6.1
30	M	6	RL.6.5	Full	3 - Strategic Thinking	Level 4		RL.6.5
31	M	6	RL.6.5	Full	3 - Strategic Thinking	Level 4		RL.6.5
32	M	6	RL.6.1	Full	1 - Recall	Level 3		RL.6.1
33	M	6	L.6.4	Full	2 - Skill/Concept	Level 3		L.6.4
34	M	6	RL.6.6	Partial	3 - Strategic Thinking	Level 4		RL.6.3
35	M	6	RL.6.3	Partial	3 - Strategic Thinking	Level 4	RL.6.1	RL.6.1
36	M	6	RL.6.3	Partial	2 - Skill/Concept	Level 4		RL.6.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
37	M	6	RI.6.3	Partial	3 - Strategic Thinking	Level 4		RI.6.3
38	M	6	L.6.4	Full	2 - Skill/Concept	Level 3		L.6.4
39	M	6	RI.6.8	Partial	3 - Strategic Thinking	Level 4		RI.6.8
40	M	6	RI.6.5	Full	3 - Strategic Thinking	Level 4		RI.6.5
41	M	6	RI.6.5	Full	2 - Skill/Concept	Level 3		RI.6.4
42	M	6	RI.6.3	Full	2 - Skill/Concept	Level 4		RI.6.3
43	M	6	RI.6.6	Full	2 - Skill/Concept	Level 3		RI.6.6
44	M	6	RI.6.1	Full	2 - Skill/Concept	Level 3		RI.6.1

**Table 10: Detailed Results, ELA 6 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	6	RI.6.8	Partial	2 - Skill/Concept	Level 3		RI.6.8
2	N	6	L.6.4	Partial	2 - Skill/Concept	Level 4		L.6.4
3	N	6	RI.6.1	Full	2 - Skill/Concept	Level 3		RI.6.4
4	N	6	RI.6.6	Partial	2 - Skill/Concept	Level 4	RI.6.8	RI.6.6
5	N	6	RI.6.1	Full	3 - Strategic Thinking	Level 4		RI.6.1
6	N	6	RI.6.1	Full	3 - Strategic Thinking	Level 4		RI.6.1
7	N	6	RI.6.1	Partial	2 - Skill/Concept	Level 4		RI.6.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
8	N	6	RI.6.5	Partial	3 - Strategic Thinking	Level 4		RI.6.5
9	N	6	RL.6.2	Partial	3 - Strategic Thinking	Level 4		RL.6.2
10	N	6	RL.6.5	Full	2 - Skill/Concept	Level 3		RL.6.5
11	N	6	L.6.5.a	Full	2 - Skill/Concept	Level 4		L.6.5.a
12	N	6	RL.6.1	Full	2 - Skill/Concept	Level 3		RL.6.1
13	N	6	RL.6.5	Full	3 - Strategic Thinking	Level 4		RL.6.5
14	N	6	RL.6.5	Partial	3 - Strategic Thinking	Level 4		RL.6.5
15	N	6	RL.6.6	Full	3 - Strategic Thinking	Level 4		RL.6.6
16	N	6	RL.6.2	Full	3 - Strategic Thinking	Level 3		RL.6.2
17	N	6	RL.6.5	Partial	2 - Skill/Concept	Level 4		RL.6.5
18	N	6	L.6.5.a	Full	3 - Strategic Thinking	Level 4		L.6.5.a
19	N	6	L.6.4	Partial	3 - Strategic Thinking	Level 4		L.6.4
20	N	6	RL.6.1	Full	3 - Strategic Thinking	Level 4		RL.6.1
21	N	6	RL.6.4	Full	3 - Strategic Thinking	Level 4		RL.6.4
22	N	6	RI.6.5	Partial	3 - Strategic Thinking	Level 4		RI.6.5
23	N	6	RI.6.5	Partial	2 - Skill/Concept	Level 3		RI.6.5
24	N	6	RI.6.1	Full	2 - Skill/Concept	Level 3		RI.6.1
25	N	6	RI.6.5	Partial	2 - Skill/Concept	Level 3		RI.6.3



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
26	N	6	RI.6.1	Full	2 - Skill/Concept	Level 3		RI.6.1
27	N	6	L.6.4	Partial	2 - Skill/Concept	Level 4		L.6.4
28	N	6	RI.6.5	Full	3 - Strategic Thinking	Level 4		RI.6.5
29	N	6	RI.6.1	Partial	2 - Skill/Concept	Level 3		RI.6.3
30	N	6	RL.6.2	Partial	3 - Strategic Thinking	Level 4		RL.6.2
31	N	6	L.6.5.a	Full	2 - Skill/Concept	Level 3	RL.6.5	L.6.5.a
32	N	6	RL.6.6	Full	2 - Skill/Concept	Level 3		RL.6.6
33	N	6	RL.6.5	Full	2 - Skill/Concept	Level 3		RL.6.5
34	N	6	RL.6.3	Partial	2 - Skill/Concept	Level 3		RL.6.3
35	N	6	RL.6.4	Partial	2 - Skill/Concept	Level 4		RL.6.4
36	N	6	RL.6.1	Partial	2 - Skill/Concept	Level 4		RL.6.1
37	N	6	RI.6.2	Partial	3 - Strategic Thinking	Level 4		RI.6.2
38	N	6	L.6.4	Full	2 - Skill/Concept	Level 3		L.6.4
39	N	6	L.6.5.a	Full	2 - Skill/Concept	Level 4	RL.6.4	RI.6.4
40	N	6	RL.6.6	Partial	2 - Skill/Concept	Level 4		RI.6.6
41	N	6	RI.6.8	Partial	2 - Skill/Concept	Level 3		RI.6.8
42	N	6	RI.6.8	Partial	2 - Skill/Concept	Level 3		RI.6.8
43	N	6	RI.6.5	Partial	3 - Strategic Thinking	Level 4		RI.6.5

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
44	N	6	RI.6.3	Partial	2 - Skill/Concept	Level 3		RI.6.3

**Table 11: Detailed Results, ELA 6 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	6	RI.6.2	Partial	3 - Strategic Thinking	Level 4		RI.6.2
2	O	6	RI.6.5	Partial	2 - Skill/Concept	Level 3		RI.6.5
3	O	6	L.6.4	Full	2 - Skill/Concept	Level 3		L.6.4
4	O	6	L.6.4	Full	2 - Skill/Concept	Level 3		L.6.4
5	O	6	RI.6.1	Full	3 - Strategic Thinking	Level 4		RI.6.1
6	O	6	RI.6.8	Full	3 - Strategic Thinking	Level 4		RI.6.3
7	O	6	RI.6.5	Full	2 - Skill/Concept	Level 3		RI.6.5
8	O	6	L.6.4	Full	2 - Skill/Concept	Level 3		RI.6.4
9	O	6	RL.6.2	Partial	3 - Strategic Thinking	Level 4		RL.6.2
10	O	6	L.6.5.a	Partial	2 - Skill/Concept	Level 3	RL.6.4	L.6.5.a
11	O	6	RL.6.5	Partial	3 - Strategic Thinking	Level 4		RL.6.5
12	O	6	RL.6.1	Full	3 - Strategic Thinking	Level 4		RL.6.1
13	O	6	RL.6.3	Full	3 - Strategic Thinking	Level 4		RL.6.3
14	O	6	RL.6.3	Full	3 - Strategic Thinking	Level 4	RL.6.1	RL.6.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
15	O	6	RL.6.4	Full	2 - Skill/Concept	Level 3		RL.6.4
16	O	6	RL.6.6	Full	3 - Strategic Thinking	Level 4		RL.6.6
17	O	6	RL.6.2	Full	3 - Strategic Thinking	Level 4		RL.6.2
18	O	6	RL.6.4	Full	3 - Strategic Thinking	Level 4		RL.6.4
19	O	6	RL.6.5	Full	3 - Strategic Thinking	Level 4		RL.6.5
20	O	6	RL.6.3	Full	3 - Strategic Thinking	Level 4		RL.6.1
21	O	6	RL.6.6	Full	3 - Strategic Thinking	Level 4		RL.6.6
22	O	6	RI.6.2	Full	3 - Strategic Thinking	Level 4		RI.6.2
23	O	6	RI.6.3	Partial	2 - Skill/Concept	Level 4		RI.6.3
24	O	6	L.6.4	Partial	2 - Skill/Concept	Level 3		L.6.4
25	O	6	RI.6.3	Partial	2 - Skill/Concept	Level 4		RI.6.3
26	O	6	RI.6.6	Partial	2 - Skill/Concept	Level 4		RI.6.6
27	O	6	RI.6.8	Partial	2 - Skill/Concept	Level 4		RI.6.8
28	O	6	RI.6.5	Partial	2 - Skill/Concept	Level 4		RI.6.5
29	O	6	RL.6.2	Partial	3 - Strategic Thinking	Level 3		RL.6.2
30	O	6	RL.6.5	Partial	3 - Strategic Thinking	Level 4		RL.6.5
31	O	6	RL.6.1	Partial	2 - Skill/Concept	Level 3		RL.6.1
32	O	6	RL.6.4	Partial	2 - Skill/Concept	Level 3		RL.6.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
33	O	6	L.6.4	Partial	2 - Skill/Concept	Level 3		L.6.4
34	O	6	RL.6.3	Partial	2 - Skill/Concept	Level 3		RL.6.3
35	O	6	L.6.5.a	Full	2 - Skill/Concept	Level 3		L.6.5.a
36	O	6	RL.6.2	Partial	3 - Strategic Thinking	Level 4		RL.6.2
37	O	6	RI.6.2	Partial	3 - Strategic Thinking	Level 3		RI.6.2
38	O	6	RI.6.5	Partial	2 - Skill/Concept	Level 3		RI.6.5
39	O	6	RI.6.8	Partial	2 - Skill/Concept	Level 3		RI.6.8
40	O	6	RI.6.3	Partial	2 - Skill/Concept	Level 3		RI.6.3
41	O	6	RI.6.4	Partial	2 - Skill/Concept	Level 3		RI.6.4
42	O	6	RI.6.6	Partial	2 - Skill/Concept	Level 3		RI.6.6
43	O	6	RI.6.1	Partial	2 - Skill/Concept	Level 4		RI.6.1
44	O	6	RI.6.2	Partial	3 - Strategic Thinking	Level 4		RI.6.2

**Table 12: Detailed Results, ELA 7 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	7	RI.7.2	Partial	3 - Strategic Thinking	Level 4		RI.7.2
2	M	7	RI.7.1	Partial	2 - Skill/Concept	Level 3		RI.7.1
3	M	7	L.7.4	Partial	2 - Skill/Concept	Level 4		L.7.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
4	M	7	RL.7.2	Partial	3 - Strategic Thinking	Level 4		RI.7.5
5	M	7	RI.7.5	Partial	3 - Strategic Thinking	Level 4		RI.7.5
6	M	7	RI.7.3	Full	3 - Strategic Thinking	Level 4		RI.7.3
7	M	7	RI.7.6	Partial	4 - Extended Thinking	Level 4		RI.7.6
8	M	7	RL.7.2	Partial	3 - Strategic Thinking	Level 4		RL.7.2
9	M	7	RL.7.1	Partial	2 - Skill/Concept	Level 3		RL.7.1
10	M	7	L.7.4	Partial	2 - Skill/Concept	Level 3		L.7.4
11	M	7	RL.7.4	Partial	3 - Strategic Thinking	Level 4		RL.7.4
12	M	7	RL.7.6	Partial	2 - Skill/Concept	Level 4		RL.7.6
13	M	7	RL.7.2	Partial	3 - Strategic Thinking	Level 3		RL.7.2
14	M	7	RL.7.2	Partial	3 - Strategic Thinking	Level 3		RL.7.2
15	M	7	RL.7.4	Partial	3 - Strategic Thinking	Level 3		RL.7.4
16	M	7	RL.7.1	Partial	2 - Skill/Concept	Level 4		RL.7.1
17	M	7	L.7.5.a	Full	2 - Skill/Concept	Level 4		L.7.5.a
18	M	7	RL.7.1	Partial	2 - Skill/Concept	Level 4		RL.7.1
19	M	7	L.7.4	Partial	2 - Skill/Concept	Level 4		L.7.4
20	M	7	RL.7.3	Partial	2 - Skill/Concept	Level 4		RL.7.3
21	M	7	RI.7.4	Full	3 - Strategic Thinking	Level 4		RI.7.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
22	M	7	RI.7.8	Partial	2 - Skill/Concept	Level 3		RI.7.8
23	M	7	RI.7.5	Full	3 - Strategic Thinking	Level 4		RI.7.5
24	M	7	RI.7.1	Partial	3 - Strategic Thinking	Level 4		RI.7.1
25	M	7	RI.7.1	Partial	3 - Strategic Thinking	Level 5		RI.7.3
26	M	7	RI.7.1	Partial	2 - Skill/Concept	Level 4		RI.7.1
27	M	7	RI.7.8	Partial	2 - Skill/Concept	Level 4		RI.7.8
28	M	7	RI.7.6	Partial	3 - Strategic Thinking	Level 4		RI.7.6
29	M	7	RL.7.2	Partial	2 - Skill/Concept	Level 3		RL.7.2
30	M	7	L.7.4	Partial	2 - Skill/Concept	Level 4		L.7.4
31	M	7	RL.7.1	Partial	2 - Skill/Concept	Level 3		RL.7.1
32	M	7	RL.7.4	Partial	2 - Skill/Concept	Level 4		RL.7.4
33	M	7	RL.7.1	Partial	2 - Skill/Concept	Level 4		RL.7.1
34	M	7	RL.7.6	Full	2 - Skill/Concept	Level 4		RL.7.3
35	M	7	RL.7.6	Full	3 - Strategic Thinking	Level 4		RL.7.6
36	M	7	RI.7.2	Partial	3 - Strategic Thinking	Level 4		RL.7.2
37	M	7	RI.7.2	Partial	3 - Strategic Thinking	Level 4		RI.7.2
38	M	7	RI.7.4	Partial	2 - Skill/Concept	Level 4		RI.7.4
39	M	7	RI.7.8	Partial	3 - Strategic Thinking	Level 4		RI.7.8

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
40	M	7	RI.7.5	Partial	3 - Strategic Thinking	Level 4		RI.7.5
41	M	7	RI.7.3	Full	3 - Strategic Thinking	Level 4		RI.7.1
42	M	7	L.7.4	Partial	2 - Skill/Concept	Level 3		L.7.4
43	M	7	RI.7.5	Partial	3 - Strategic Thinking	Level 4		RI.7.5
44	M	7	RI.7.3	Full	2 - Skill/Concept	Level 4		RI.7.3

**Table 13: Detailed Results, ELA 7 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	7	RI.7.2	Partial	3 - Strategic Thinking	Level 3		RI.7.2
2	N	7	RI.7.4	Partial	3 - Strategic Thinking	Level 4		RI.7.4
3	N	7	L.7.4	Partial	2 - Skill/Concept	Level 4		L.7.4
4	N	7	RI.7.5	Partial	3 - Strategic Thinking	Level 4		RI.7.5
5	N	7	RI.7.6	Partial	2 - Skill/Concept	Level 3		RI.7.6
6	N	7	RI.7.5	Partial	3 - Strategic Thinking	Level 4		RI.7.5
7	N	7	RI.7.2	Partial	3 - Strategic Thinking	Level 4		RI.7.2
8	N	7	RL.7.2	Partial	2 - Skill/Concept	Level 4		RL.7.2
9	N	7	RL.7.6	Partial	3 - Strategic Thinking	Level 4		RL.7.6
10	N	7	RL.7.1	Full	2 - Skill/Concept	Level 3		RL.7.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
11	N	7	L.7.5.a	Full	2 - Skill/Concept	Level 4		L.7.5.a
12	N	7	RL.7.5	Partial	3 - Strategic Thinking	Level 4	RL.7.2	RL.7.5
13	N	7	RL.7.2	Partial	3 - Strategic Thinking	Level 3		RL.7.2
14	N	7	L.7.4	Partial	3 - Strategic Thinking	Level 4		L.7.4
15	N	7	RL.7.1	Partial	3 - Strategic Thinking	Level 4		RL.7.1
16	N	7	L.7.5.a	Full	2 - Skill/Concept	Level 3		L.7.5.a
17	N	7	RL.7.2	Partial	3 - Strategic Thinking	Level 3		RL.7.2
18	N	7	RL.7.6	Partial	2 - Skill/Concept	Level 3		RL.7.6
19	N	7	RL.7.3	Full	3 - Strategic Thinking	Level 3		RL.7.3
20	N	7	RL.7.2	Partial	2 - Skill/Concept	Level 4		RL.7.2
21	N	7	L.7.4	Partial	3 - Strategic Thinking	Level 4		RI.7.4
22	N	7	RI.7.4	Full	2 - Skill/Concept	Level 4		RI.7.4
23	N	7	L.7.4	Full	2 - Skill/Concept	Level 3		L.7.4
24	N	7	RI.7.1	Full	3 - Strategic Thinking	Level 4		RI.7.1
25	N	7	RI.7.5	Full	4 - Extended Thinking	Level 5		RI.7.5
26	N	7	RI.7.8	Full	3 - Strategic Thinking	Level 4		RI.7.8
27	N	7	RI.7.6	Partial	2 - Skill/Concept	Level 4		RI.7.6
28	N	7	RI.7.6	Full	2 - Skill/Concept	Level 4		RI.7.6



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
29	N	7	RL.7.2	Partial	3 - Strategic Thinking	Level 4		RL.7.2
30	N	7	RL.7.4	Partial	2 - Skill/Concept	Level 4		RL.7.4
31	N	7	RL.7.3	Full	2 - Skill/Concept	Level 4		RL.7.3
32	N	7	RL.7.6	Partial	2 - Skill/Concept	Level 4		RL.7.6
33	N	7	L.7.4	Partial	3 - Strategic Thinking	Level 4		L.7.4
34	N	7	RL.7.1	Partial	2 - Skill/Concept	Level 4		RL.7.1
35	N	7	RL.7.1	Partial	2 - Skill/Concept	Level 4		RL.7.1
36	N	7	RL.7.1	Partial	2 - Skill/Concept	Level 4		RL.7.1
37	N	7	RI.7.2	Partial	3 - Strategic Thinking	Level 4		RI.7.2
38	N	7	RI.7.1	Partial	3 - Strategic Thinking	Level 4		RI.7.1
39	N	7	RI.7.1	Partial	2 - Skill/Concept	Level 4		RI.7.1
40	N	7	RI.7.3	Full	3 - Strategic Thinking	Level 4		RI.7.3
41	N	7	RI.7.8	Partial	3 - Strategic Thinking	Level 4		RI.7.8
42	N	7	RI.7.3	Full	3 - Strategic Thinking	Level 4		RI.7.3
43	N	7	RI.7.8	Full	2 - Skill/Concept	Level 4		RI.7.1
44	N	7	RI.7.6	Partial	2 - Skill/Concept	Level 4		RI.7.6

**Table 14: Detailed Results, ELA 8 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	8	L.8.4	Partial	2 - Skill/Concept	Level 4		L.8.4
2	M	8	RL.8.2	Partial	3 - Strategic Thinking	Level 4	RL.8.3	RL.8.2
3	M	8	RL.8.2	Partial	3 - Strategic Thinking	Level 4		RL.8.3
4	M	8	RL.8.3	Full	2 - Skill/Concept	Level 4		RL.8.3
5	M	8	L.8.4	Partial	2 - Skill/Concept	Level 3		RL.8.4
6	M	8	RL.8.1	Partial	2 - Skill/Concept	Level 3		RL.8.1
7	M	8	RL.8.4	Partial	2 - Skill/Concept	Level 4		RL.8.4
8	M	8	RL.8.3	Full	2 - Skill/Concept	Level 4		RL.8.3
9	M	8	RI.8.8	Partial	2 - Skill/Concept	Level 4		RI.8.8
10	M	8	RI.8.8	Partial	2 - Skill/Concept	Level 4		RI.8.8
11	M	8	L.8.4	Partial	2 - Skill/Concept	Level 4		RI.8.4
12	M	8	L.8.5.a	Full	2 - Skill/Concept	Level 4		L.8.4
13	M	8	RI.8.1	Partial	3 - Strategic Thinking	Level 4		RI.8.1
14	M	8	RI.8.3	Full	3 - Strategic Thinking	Level 4		RI.8.3
15	M	8	RI.8.5	Full	2 - Skill/Concept	Level 4		RI.8.5
16	M	8	RI.8.3	Full	2 - Skill/Concept	Level 3		RI.8.3
17	M	8	RI.8.2	Partial	3 - Strategic Thinking	Level 4		RI.8.2
18	M	8	RI.8.2	Partial	3 - Strategic	Level		RI.8.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Thinking	4		
19	M	8	RI.8.8	Partial	2 - Skill/Concept	Level 4		RI.8.8
20	M	8	RI.8.2	Partial	3 - Strategic Thinking	Level 4		RI.8.2
21	M	8	RI.8.5	Full	2 - Skill/Concept	Level 4		RI.8.5
22	M	8	RI.8.3	Full	2 - Skill/Concept	Level 4		RI.8.3
23	M	8	RI.8.8	Partial	2 - Skill/Concept	Level 4		RI.8.8
24	M	8	L.8.4	Partial	2 - Skill/Concept	Level 4		L.8.5.a
25	M	8	L.8.4	Full	2 - Skill/Concept	Level 3		L.8.5.a
26	M	8	RL.8.3	Full	2 - Skill/Concept	Level 4		RL.8.1
27	M	8	RL.8.4	Partial	2 - Skill/Concept	Level 4		RL.8.4
28	M	8	RL.8.1	Partial	3 - Strategic Thinking	Level 4		RL.8.1
29	M	8	L.8.4	Partial	2 - Skill/Concept	Level 4		RL.8.4
30	M	8	RL.8.4	Partial	2 - Skill/Concept	Level 4		L.8.4
31	M	8	RI.8.1	Partial	2 - Skill/Concept	Level 4		RL.8.1
32	M	8	RL.8.6	Partial	3 - Strategic Thinking	Level 4		RL.8.3
33	M	8	RL.8.3	Full	2 - Skill/Concept	Level 3		RL.8.1
34	M	8	RL.8.2	Partial	3 - Strategic Thinking	Level 4		RL.8.2
35	M	8	RL.8.3	Full	2 - Skill/Concept	Level 4		RL.8.3
36	M	8	RL.8.6	Full	3 - Strategic	Level		RL.8.6

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Thinking	4		
37	M	8	RI.8.1	Partial	2 - Skill/Concept	Level 4		RI.8.1
38	M	8	RI.8.1	Full	2 - Skill/Concept	Level 4		RI.8.1
39	M	8	RI.8.2	Partial	3 - Strategic Thinking	Level 3		RI.8.5
40	M	8	RI.8.2	Partial	3 - Strategic Thinking	Level 4		RI.8.2
41	M	8	RI.8.5	Partial	3 - Strategic Thinking	Level 4		RI.8.5
42	M	8	L.8.4	Partial	2 - Skill/Concept	Level 3		L.8.4
43	M	8	RI.8.6	Partial	2 - Skill/Concept	Level 4		RI.8.6
44	M	8	RI.8.8	Partial	2 - Skill/Concept	Level 3		RI.8.8

**Table 15: Detailed Results, ELA 8 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	8	RL.8.2	Partial	3 - Strategic Thinking	Level 4		RL.8.2
2	N	8	RL.8.4	Partial	3 - Strategic Thinking	Level 4		RL.8.4
3	N	8	RL.8.3	Full	2 - Skill/Concept	Level 4		RL.8.1
4	N	8	L.8.4	Partial	2 - Skill/Concept	Level 3		L.8.4
5	N	8	RL.8.1	Partial	2 - Skill/Concept	Level 4		RL.8.1
6	N	8	L.8.4	Full	2 - Skill/Concept	Level 3		L.8.4
7	N	8	RL.8.3	Full	3 - Strategic Thinking	Level 4		RL.8.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
8	N	8	RL.8.6	Full	3 - Strategic Thinking	Level 4		RL.8.6
9	N	8	RI.8.2	Partial	3 - Strategic Thinking	Level 4		RI.8.2
10	N	8	L.8.4	Full	2 - Skill/Concept	Level 3		L.8.4
11	N	8	RI.8.5	Partial	2 - Skill/Concept	Level 3		RI.8.5
12	N	8	RI.8.1	Partial	3 - Strategic Thinking	Level 4		RI.8.1
13	N	8	RI.8.3	Full	2 - Skill/Concept	Level 4		RI.8.3
14	N	8	RI.8.3	Full	2 - Skill/Concept	Level 4		RI.8.3
15	N	8	RI.8.8	Partial	2 - Skill/Concept	Level 3		RI.8.8
16	N	8	RI.8.2	Full	3 - Strategic Thinking	Level 3		RI.8.2
17	N	8	RL.8.2	Partial	2 - Skill/Concept	Level 3		RL.8.2
18	N	8	RL.8.4	Partial	2 - Skill/Concept	Level 3		RL.8.4
19	N	8	RL.8.1	Full	2 - Skill/Concept	Level 3		RL.8.1
20	N	8	RL.8.1	Full	2 - Skill/Concept	Level 4		RL.8.1
21	N	8	RL.8.3	Full	3 - Strategic Thinking	Level 4		RL.8.3
22	N	8	RL.8.3	Full	2 - Skill/Concept	Level 4		RL.8.3
23	N	8	RL.8.6	Full	3 - Strategic Thinking	Level 5		RL.8.6
24	N	8	RL.8.2	Partial	2 - Skill/Concept	Level 4		RL.8.2
25	N	8	RL.8.2	Full	3 - Strategic Thinking	Level 3		RL.8.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
26	N	8	L.8.4	Full	2 - Skill/Concept	Level 3		L.8.4
27	N	8	RL.8.4	Partial	2 - Skill/Concept	Level 4		RL.8.4
28	N	8	RL.8.3	Full	2 - Skill/Concept	Level 3		RL.8.1
29	N	8	RL.8.4	Partial	3 - Strategic Thinking	Level 4		RL.8.4
30	N	8	RI.8.3	Full	2 - Skill/Concept	Level 4		RI.8.3
31	N	8	RI.8.4	Partial	3 - Strategic Thinking	Level 4		RI.8.4
32	N	8	RI.8.5	Partial	2 - Skill/Concept	Level 4		RI.8.5
33	N	8	RI.8.8	Partial	2 - Skill/Concept	Level 4		RI.8.8
34	N	8	L.8.4	Partial	2 - Skill/Concept	Level 3		L.8.4
35	N	8	RI.8.1	Partial	2 - Skill/Concept	Level 4		RI.8.1
36	N	8	RI.8.5	Partial	3 - Strategic Thinking	Level 4		RI.8.5
37	N	8	RI.8.6	Partial	2 - Skill/Concept	Level 4		RI.8.6
38	N	8	RI.8.2	Partial	3 - Strategic Thinking	Level 4		RI.8.2
39	N	8	RI.8.1	Partial	2 - Skill/Concept	Level 3		RI.8.1
40	N	8	RI.8.5	Full	2 - Skill/Concept	Level 3		RI.8.5
41	N	8	RI.8.5	Full	2 - Skill/Concept	Level 4		RI.8.5
42	N	8	RI.8.3	Full	2 - Skill/Concept	Level 4		RI.8.1
43	N	8	RI.8.4	Partial	3 - Strategic Thinking	Level 4		RI.8.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
44	N	8	RI.8.3	Full	2 - Skill/Concept	Level 4		RI.8.3

**Table 16: Detailed Results, ELA HS Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	9-10	RI.9-10.2	Partial	2 - Skill/Concept	Level 4		RI.10.2
2	M	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 3		RI.10.1
3	M	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 4		RI.10.1
4	M	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 3		RI.10.4
5	M	9-10	RI.9-10.5	Partial	3 - Strategic Thinking	Level 4		RI.10.8
6	M	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 4		RI.10.1
7	M	9-10	RI.9-10.5	Full	3 - Strategic Thinking	Level 4		RI.10.5
8	M	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 3		RI.10.4
9	M	9-10	RI.9-10.5	Full	3 - Strategic Thinking	Level 4		RI.10.3
10	M	9-10	RL.9-10.2	Partial	3 - Strategic Thinking	Level 4		RL.10.2
11	M	9-10	RL.9-10.2	Partial	3 - Strategic Thinking	Level 4		RL.10.3
12	M	9-10	L.9-10.5.a	Partial	3 - Strategic Thinking	Level 4		RL.10.4
13	M	9-10	RL.9-10.5	Partial	2 - Skill/Concept	Level 4		RL.10.5
14	M	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 3		L.10.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
15	M	9-10	RL.9-10.3	Partial	2 - Skill/Concept	Level 4		RL.10.1
16	M	9-10	RL.9-10.6	Partial	2 - Skill/Concept	Level 4		RL.10.6
17	M	9-10	RL.9-10.2	Partial	3 - Strategic Thinking	Level 4		RL.10.2
18	M	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 3		L.10.4
19	M	9-10	RL.9-10.4	Partial	2 - Skill/Concept	Level 4		L.10.4
20	M	9-10	RL.9-10.1	Full	3 - Strategic Thinking	Level 4		RL.10.1
21	M	9-10	RL.9-10.4	Partial	2 - Skill/Concept	Level 4		RL.10.4
22	M	9-10	RL.9-10.4	Partial	3 - Strategic Thinking	Level 3		RL.10.4
23	M	9-10	L.9-10.5	Full	2 - Skill/Concept	Level 4		L.10.5
24	M	9-10	RL.9-10.3	Partial	3 - Strategic Thinking	Level 4		RL.10.3
25	M	9-10	RI.9-10.2	Partial	2 - Skill/Concept	Level 4		RI.10.2
26	M	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 3		L.10.4
27	M	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 4		RI.10.3
28	M	9-10	L.9-10.5.a	Full	3 - Strategic Thinking	Level 4		L.10.5
29	M	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 3		RI.10.1
30	M	9-10	RI.9-10.6	Partial	3 - Strategic Thinking	Level 4		RI.10.6
31	M	9-10	RI.9-10.3	Partial	2 - Skill/Concept	Level 4		RI.10.5
32	M	9-10	RI.9-10.6	Partial	2 - Skill/Concept	Level 4		RI.10.6



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
33	M	9-10	RI.9-10.1	Full	3 - Strategic Thinking	Level 4	RI.9-10.6	RI.10.1
34	M	9-10	RL.9-10.2	Partial	2 - Skill/Concept	Level 4		RL.10.3
35	M	9-10	RL.9-10.4	Partial	3 - Strategic Thinking	Level 4		RL.10.4
36	M	9-10	RL.9-10.2	Partial	2 - Skill/Concept	Level 4		RL.10.2
37	M	9-10	RL.9-10.6	Partial	3 - Strategic Thinking	Level 4		RL.10.6
38	M	9-10	L.9-10.5.a	Full	2 - Skill/Concept	Level 4		RL.10.4
39	M	9-10	RL.9-10.3	Full	3 - Strategic Thinking	Level 4	RL.9-10.5	RL.10.1
40	M	9-10	RL.9-10.1	Full	2 - Skill/Concept	Level 3		RL.10.1
41	M	9-10	RL.9-10.1	Full	2 - Skill/Concept	Level 4		RL.10.1
42	M	9-10	RL.9-10.3	Partial	3 - Strategic Thinking	Level 4	RL.9-10.5	RL.10.1
43	M	9-10	RI.9-10.6	Partial	2 - Skill/Concept	Level 4		RI.10.6
44	M	9-10	RI.9-10.3	Partial	2 - Skill/Concept	Level 4		RI.10.3
45	M	9-10	RI.9-10.5	Partial	2 - Skill/Concept	Level 4		RI.10.1
46	M	9-10	RI.9-10.5	Full	2 - Skill/Concept	Level 4		RI.10.4
47	M	9-10	L.9-10.4	Full	2 - Skill/Concept	Level 4		L.10.4
48	M	9-10	RI.9-10.5	Full	2 - Skill/Concept	Level 4		RI.10.8
49	M	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 4	RI.9-10.5	RI.10.1
50	M	9-10	RI.9-10.6	Full	2 - Skill/Concept	Level 4	RI.9-10.5	RI.10.6

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
51	M	9-10	RI.9-10.5	Full	3 - Strategic Thinking	Level 5	RI.9-10.1	RI.10.3

**Table 17: Detailed Results, ELA HS Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	9-10	RI.9-10.2	Partial	2 - Skill/Concept	Level 4		RI.10.2
2	N	9-10	RI.9-10.8	Partial	2 - Skill/Concept	Level 4		RI.10.8
3	N	9-10	RI.9-10.5	Partial	2 - Skill/Concept	Level 4		RI.10.5
4	N	9-10	RI.9-10.5	Partial	2 - Skill/Concept	Level 4		RI.10.5
5	N	9-10	RI.9-10.4	Partial	2 - Skill/Concept	Level 4		RI.10.4
6	N	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 4		L.10.4
7	N	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 4		RI.10.1
8	N	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 3		RI.10.1
9	N	9-10	RI.9-10.2	Partial	3 - Strategic Thinking	Level 3		RI.10.2
10	N	9-10	RL.9-10.2	Partial	3 - Strategic Thinking	Level 4		RL.10.2
11	N	9-10	RL.9-10.2	Partial	2 - Skill/Concept	Level 4		RL.10.2
12	N	9-10	RL.9-10.1	Partial	2 - Skill/Concept	Level 4		RL.10.1
13	N	9-10	L.9-10.5.a	Full	3 - Strategic Thinking	Level 4		RL.10.4
14	N	9-10	RL.9-10.4	Partial	3 - Strategic Thinking	Level 4		L.10.5

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
15	N	9-10	RL.9-10.4	Partial	3 - Strategic Thinking	Level 4		L.10.5
16	N	9-10	RL.9-10.2	Partial	2 - Skill/Concept	Level 4		RL.10.2
17	N	9-10	RL.9-10.5	Partial	3 - Strategic Thinking	Level 4		RL.10.1
18	N	9-10	RL.9-10.4	Partial	3 - Strategic Thinking	Level 4		RL.10.4
19	N	9-10	RL.9-10.3	Partial	2 - Skill/Concept	Level 4		RL.10.1
20	N	9-10	RL.9-10.3	Partial	2 - Skill/Concept	Level 4		RL.10.1
21	N	9-10	RL.9-10.4	Partial	2 - Skill/Concept	Level 4		RL.10.4
22	N	9-10	RL.9-10.3	Partial	2 - Skill/Concept	Level 4		RL.10.1
23	N	9-10	RL.9-10.5	Partial	2 - Skill/Concept	Level 4		RL.10.4
24	N	9-10	RL.9-10.2	Partial	2 - Skill/Concept	Level 4		RL.10.2
25	N	9-10	RI.9-10.2	Partial	3 - Strategic Thinking	Level 4		RI.10.2
26	N	9-10	RI.9-10.5	Partial	2 - Skill/Concept	Level 3	RI.9-10.3	RI.10.6
27	N	9-10	RI.9-10.6	Full	2 - Skill/Concept	Level 3		RI.10.6
28	N	9-10	L.9-10.5.a	Full	2 - Skill/Concept	Level 4		RI.10.4
29	N	9-10	RI.9-10.1	Full	2 - Skill/Concept	Level 4		RI.10.1
30	N	9-10	RI.9-10.6	Partial	2 - Skill/Concept	Level 4	RI.9-10.4	RI.10.3
31	N	9-10	RI.9-10.3	Partial	2 - Skill/Concept	Level 4		RI.10.3
32	N	9-10	RI.9-10.5	Partial	3 - Strategic Thinking	Level 3		RI.10.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
33	N	9-10	RI.9-10.8	Partial	3 - Strategic Thinking	Level 5	RL.9-10.1	RI.10.8
34	N	9-10	RL.9-10.2	Partial	2 - Skill/Concept	Level 4		RL.10.2
35	N	9-10	RL.9-10.1	Full	2 - Skill/Concept	Level 4		RL.10.1
36	N	9-10	RL.9-10.5	Full	2 - Skill/Concept	Level 3		RL.10.5
37	N	9-10	RL.9-10.5	Full	2 - Skill/Concept	Level 4		RL.10.5
38	N	9-10	RL.9-10.3	Partial	2 - Skill/Concept	Level 4		RL.10.1
39	N	9-10	RL.9-10.6	Full	3 - Strategic Thinking	Level 4		RL.10.6
40	N	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 4		L.10.4
41	N	9-10	RL.9-10.3	Partial	3 - Strategic Thinking	Level 4		RL.10.3
42	N	9-10	RL.9-10.3	Partial	3 - Strategic Thinking	Level 4		RL.10.1
43	N	9-10	RI.9-10.3	Partial	2 - Skill/Concept	Level 4	RI.9-10.2	RI.10.2
44	N	9-10	RI.9-10.6	Partial	2 - Skill/Concept	Level 4		RI.10.6
45	N	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 3		L.10.4
46	N	9-10	RI.9-10.6	Partial	2 - Skill/Concept	Level 4		RI.10.6
47	N	9-10	RI.9-10.8	Partial	3 - Strategic Thinking	Level 5		RI.10.8
48	N	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 4		L.10.5
49	N	9-10	RI.9-10.3	Partial	2 - Skill/Concept	Level 4		RI.10.3
50	N	9-10	RI.9-10.6	Partial	2 - Skill/Concept	Level 4		RI.10.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
51	N	9-10	RI.9-10.8	Partial	4 - Extended Thinking	Level 5	RI.9-10.1	RI.10.8

**Table 18: Detailed Results, ELA HS Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	9-10	RI.9-10.2	Partial	2 - Skill/Concept	Level 4		RI.10.2
2	O	9-10	RI.9-10.2	Partial	2 - Skill/Concept	Level 3		RI.10.2
3	O	9-10	RI.9-10.5	Partial	2 - Skill/Concept	Level 4		RI.10.8
4	O	9-10	RI.9-10.4	Partial	2 - Skill/Concept	Level 4		RI.10.4
5	O	9-10	RI.9-10.5	Partial	2 - Skill/Concept	Level 4	RI.9-10.1	RI.10.1
6	O	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 4		L.10.4
7	O	9-10	RI.9-10.5	Partial	2 - Skill/Concept	Level 4	RI.9-10.4	RI.10.5
8	O	9-10	RI.9-10.6	Partial	3 - Strategic Thinking	Level 4		RI.10.6
9	O	9-10	RI.9-10.6	Partial	2 - Skill/Concept	Level 4	RI.9-10.5	RI.10.3
10	O	9-10	RL.9-10.2	Partial	2 - Skill/Concept	Level 4		RL.10.2
11	O	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 4		RL.10.4
12	O	9-10	RI.9-10.6	Partial	2 - Skill/Concept	Level 3		RL.10.6
13	O	9-10	L.9-10.4	Partial	3 - Strategic Thinking	Level 4		L.10.4
14	O	9-10	RL.9-10.1	Partial	2 - Skill/Concept	Level 4		RL.10.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
15	O	9-10	RL.9-10.5	Partial	3 - Strategic Thinking	Level 4		RL.10.5
16	O	9-10	RL.9-10.5	Partial	2 - Skill/Concept	Level 4		RL.10.5
17	O	9-10	L.9-10.4	Partial	3 - Strategic Thinking	Level 4		RL.10.4
18	O	9-10	RL.9-10.3	Partial	2 - Skill/Concept	Level 4	RL.9-10.1	RL.10.1
19	O	9-10	RL.9-10.1	Full	2 - Skill/Concept	Level 4		RL.10.1
20	O	9-10	RL.9-10.3	Partial	3 - Strategic Thinking	Level 4		RL.10.3
21	O	9-10	L.9-10.5.a	Partial	3 - Strategic Thinking	Level 4		L.10.5
22	O	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 4		L.10.4
23	O	9-10	RL.9-10.1	Full	2 - Skill/Concept	Level 4		RL.10.1
24	O	9-10	RL.9-10.6	Partial	3 - Strategic Thinking	Level 4		RL.10.6
25	O	9-10	L.9-10.5.a	Full	2 - Skill/Concept	Level 5	RL.9-10.4	L.10.5
26	O	9-10	RI.9-10.1	Full	2 - Skill/Concept	Level 5		RI.10.1
27	O	9-10	RI.9-10.6	Partial	3 - Strategic Thinking	Level 5	RL.9-10.5	RI.10.6
28	O	9-10	RI.9-10.1	Full	2 - Skill/Concept	Level 5		RI.10.1
29	O	9-10	RI.9-10.2	Partial	2 - Skill/Concept	Level 5		RI.10.2
30	O	9-10	RI.9-10.1	Full	2 - Skill/Concept	Level 5		RI.10.1
31	O	9-10	RI.9-10.5	Partial	3 - Strategic Thinking	Level 5		RI.10.8
32	O	9-10	RI.9-10.5	Partial	3 - Strategic Thinking	Level 4		RI.10.8

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
33	O	9-10	RI.9-10.1	Full	2 - Skill/Concept	Level 4		RI.10.4
34	O	9-10	RL.9-10.3	Partial	2 - Skill/Concept	Level 3		RL.10.1
35	O	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 4		L.10.4
36	O	9-10	RL.9-10.4	Partial	2 - Skill/Concept	Level 4		RL.10.4
37	O	9-10	RL.9-10.5	Partial	2 - Skill/Concept	Level 4		RL.10.5
38	O	9-10	RL.9-10.2	Partial	3 - Strategic Thinking	Level 4		RL.10.2
39	O	9-10	RL.9-10.3	Full	2 - Skill/Concept	Level 4		RL.10.1
40	O	9-10	RL.9-10.3	Partial	2 - Skill/Concept	Level 4		RL.10.3
41	O	9-10	RL.9-10.5	Partial	2 - Skill/Concept	Level 4		RL.10.5
42	O	9-10	RL.9-10.3	Partial	3 - Strategic Thinking	Level 4	RL.9-10.1	RL.10.3
43	O	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 3		RI.10.2
44	O	9-10	L.9-10.4	Partial	2 - Skill/Concept	Level 3		L.10.4
45	O	9-10	RI.9-10.4	Partial	2 - Skill/Concept	Level 4		RI.10.4
46	O	9-10	RI.9-10.1	Partial	2 - Skill/Concept	Level 4		RI.10.5
47	O	9-10	RI.9-10.4	Partial	2 - Skill/Concept	Level 4		RI.10.4
48	O	9-10	RI.9-10.6	Full	3 - Strategic Thinking	Level 4	RL.9-10.5	RI.10.3
49	O	9-10	RI.9-10.5	Partial	2 - Skill/Concept	Level 4		RI.10.5
50	O	9-10	RI.9-10.6	Partial	2 - Skill/Concept	Level 4		RI.10.6

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
51	O	9-10	RI.9-10.5	Full	3 - Strategic Thinking	Level 4	RI.9-10.1	RI.10.8



Math Detailed Results

**Table 19: Detailed Results, Math 3 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 3		3.OA.3
2	M	3	NC.3.G.1	Full	1 - Recall	Level 3		3.G.1
3	M	3	NC.3.OA.8	Partial	3 - Strategic Thinking	Level 4	NC.3.OA.8	3.OA.8
4	M	3	NC.3.NBT.3	Full	2 - Skill/Concept	Level 3	NC.3.OA.3	3.NBT.3
5	M	3	NC.3.OA.6	Full	1 - Recall	Level 3		3.OA.6
6	M	3	NC.3.NF.1	Full	3 - Strategic Thinking	Level 4		3.NF.3
7	M	3	NC.3.NBT.2	Partial	2 - Skill/Concept	Level 5	NC.3.OA.8	3.OA.8
8	M	3	NC.3.NBT.2	Partial	2 - Skill/Concept	Level 5	NC.3.OA.8	3.NBT.2
9	M	3	NC.3.OA.3	Full	1 - Recall	Level 4		3.OA.3
10	M	3	NC.3.OA.7	Full	1 - Recall	Level 3		3.OA.2
11	M	3	NC.3.NF.3	Full	2 - Skill/Concept	Level 4		3.NF.3
12	M	3	NC.3.OA.1	Full	2 - Skill/Concept	Level 4		3.OA.1
13	M	3	NC.3.NF.3	Full	1 - Recall	Level 3		3.NF.3
14	M	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 3		3.OA.3
15	M	3	NC.3.OA.8	Partial	2 - Skill/Concept	Level 5		3.OA.8
16	M	3	NC.3.NF.3	Partial	2 - Skill/Concept	Level 5		3.NF.2
17	M	3	NC.3.NBT.2	Partial	2 - Skill/Concept	Level 4	NC.3.OA.8	3.NBT.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
18	M	3	NC.3.OA.1	Partial	2 - Skill/Concept	Level 5	NC.3.OA.8	3.OA.1
19	M	3	NC.3.MD.3	Partial	1 - Recall	Level 3		3.MD.3
20	M	3	NC.3.OA.8	Partial	2 - Skill/Concept	Level 5		3.OA.8
21	M	3	NC.3.NBT.2	Full	2 - Skill/Concept	Level 5	NC.3.OA.8	3.NBT.2
22	M	3	NC.3.MD.3	Full	2 - Skill/Concept	Level 4		3.MD.8
23	M	3	NC.3.NBT.3	Full	2 - Skill/Concept	Level 5		3.NBT.3
24	M	4	NC.4.NF.2	Partial	2 - Skill/Concept	Level 5		3.NF.4
25	M	3	NC.3.G.1	Partial	1 - Recall	Level 3		3.G.1
26	M	3	NC.3.MD.7	Partial	1 - Recall	Level 4		3.MD.7
27	M	3	NC.3.NF.3	Partial	2 - Skill/Concept	Level 4		3.NF.3
28	M	3	NC.3.MD.3	Partial	2 - Skill/Concept	Level 4		3.MD.3
29	M	3	NC.3.NF.4	Partial	2 - Skill/Concept	Level 5		3.NF.4
30	M	3	NC.3.MD.8	Full	2 - Skill/Concept	Level 5		3.MD.8
31	M	3	NC.3.MD.8	Full	2 - Skill/Concept	Level 4		3.MD.8
32	M	3	NC.3.NF.3	Partial	1 - Recall	Level 3		3.NF.3
33	M	3	NC.3.NF.4	Full	1 - Recall	Level 4		3.NF.4
34	M	3	NC.3.OA.9	Full	2 - Skill/Concept	Level 4		3.OA.9
35	M	3	NC.3.MD.1	Partial	2 - Skill/Concept	Level 4		3.MD.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
36	M	3	NC.3.NF.3	Full	2 - Skill/Concept	Level 3		3.NF.3
37	M	3	NC.3.NF.1	Full	2 - Skill/Concept	Level 3		3.NF.2
38	M	3	NC.3.MD.7	Partial	2 - Skill/Concept	Level 4		3.MD.7
39	M	3	NC.3.NF.2	Partial	3 - Strategic Thinking	Level 4		3.NF.1
40	M	3	NC.3.OA.3	Partial	2 - Skill/Concept	Level 4		3.OA.3

**Table 20: Detailed Results, Math 3 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	3	NC.3.OA.8	Partial	2 - Skill/Concept	Level 3		3.NBT.2
2	N	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 4		3.OA.3
3	N	3	NC.3.NF.3	Partial	2 - Skill/Concept	Level 5		3.NF.3
4	N	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 4		3.OA.6
5	N	3	NC.3.NF.3	Full	2 - Skill/Concept	Level 4		3.NF.2
6	N	4	NC.4.OA.5	Partial	2 - Skill/Concept	Not Proficient		3.G.1
7	N	3	NC.3.NF.3	Full	2 - Skill/Concept	Level 5		3.NF.3
8	N	3	NC.3.NBT.3	Full	2 - Skill/Concept	Level 4	NC.3.OA.3	3.NBT.3
9	N	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 4		3.OA.2
10	N	3	NC.3.OA.8	Partial	2 - Skill/Concept	Level 3	NC.3.NBT.2	3.NBT.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
11	N	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 4		3.OA.3
12	N	3	NC.3.NF.3	Full	1 - Recall	Level 5		3.NF.3
13	N	3	NC.3.OA.3	Partial	2 - Skill/Concept	Level 3		3.OA.1
14	N	3	NC.3.NF.2	Full	2 - Skill/Concept	Level 3		3.NF.1
15	N	3	NC.3.OA.6	Full	1 - Recall	Level 3		3.OA.6
16	N	3	NC.3.OA.8	Full	2 - Skill/Concept	Level 5		3.OA.8
17	N	3	NC.3.OA.3	Partial	2 - Skill/Concept	Level 4		3.OA.3
18	N	3	NC.3.NBT.2	Partial	2 - Skill/Concept	Level 4	NC.3.OA.8	3.NBT.2
19	N	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 4		3.OA.2
20	N	3	NC.3.MD.3	Partial	2 - Skill/Concept	Level 5		3.MD.3
21	N	3	NC.3.NF.4	Full	2 - Skill/Concept	Level 5		3.NF.4
22	N	3	NC.3.MD.3	Partial	2 - Skill/Concept	Level 5		3.MD.3
23	N	3	NC.3.NF.1	Partial	2 - Skill/Concept	Level 4		3.NF.1
24	N	3	NC.3.MD.8	Full	2 - Skill/Concept	Level 4		3.MD.8
25	N	3	NC.3.MD.3	Partial	2 - Skill/Concept	Level 4		3.MD.3
26	N	3	NC.3.MD.7	Partial	2 - Skill/Concept	Level 4		3.MD.7
27	N	3	NC.3.NF.3	Partial	2 - Skill/Concept	Level 5		3.NF.2
28	N	3	NC.3.OA.8	Full	2 - Skill/Concept	Level 5		3.OA.8
29	N	3	NC.3.NF.1	Partial	1 - Recall	Level 4		3.NF.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
30	N	3	NC.3.OA.9	Full	2 - Skill/Concept	Level 4		3.OA.9
31	N	3	NC.3.OA.2	Partial	2 - Skill/Concept	Level 5		3.OA.3
32	N	3	NC.3.MD.8	Full	2 - Skill/Concept	Level 5		3.MD.8
33	N	3	NC.3.NF.3	Partial	2 - Skill/Concept	Level 3		3.NF.3
34	N	3	NC.3.MD.7	Full	2 - Skill/Concept	Level 4		3.MD.7
35	N	3	NC.3.MD.1	Full	2 - Skill/Concept	Level 3		3.MD.1
36	N	3	NC.3.NF.3	Full	2 - Skill/Concept	Level 5		3.NF.2
37	N	3	NC.3.OA.2	Full	2 - Skill/Concept	Level 4		3.OA.8
38	N	3	NC.3.MD.1	Full	2 - Skill/Concept	Level 5		3.MD.1
39	N	4	NC.4.NF.2	Partial	2 - Skill/Concept	Level 5		3.NF.4
40	N	3	NC.3.NBT.3	Full	2 - Skill/Concept	Level 5		3.NBT.3

**Table 21: Detailed Results, Math 3 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	3	NC.3.NF.3	Partial	2 - Skill/Concept	Level 5		3.NF.3
2	O	3	NC.3.OA.1	Partial	2 - Skill/Concept	Level 4		3.OA.1
3	O	3	NC.3.OA.7	Full	1 - Recall	Level 3		3.OA.2
4	O	4	NC.4.NF.3	Partial	2 - Skill/Concept	Level 3		3.NF.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
5	O	3	NC.3.OA.8	Full	2 - Skill/Concept	Level 5		3.OA.8
6	O	3	NC.3.MD.2	Partial	2 - Skill/Concept	Level 5		3.MD.2
7	O	3	NC.3.NBT.2	Partial	2 - Skill/Concept	Level 5	NC.3.OA.8	3.NBT.2
8	O	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 5		3.OA.3
9	O	3	NC.3.OA.6	Full	1 - Recall	Level 3		3.OA.6
10	O	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 5		3.OA.3
11	O	3	NC.3.NF.3	Full	1 - Recall	Level 3		3.NF.3
12	O	3	NC.3.NBT.2	Partial	2 - Skill/Concept	Level 4	NC.3.OA.8	3.NBT.2
13	O	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 5		3.OA.2
14	O	3	NC.3.NF.1	Full	2 - Skill/Concept	Level 4		3.NF.1
15	O	3	NC.3.OA.7	Full	1 - Recall	Level 3		3.OA.3
16	O	3	NC.3.NBT.3	Partial	2 - Skill/Concept	Level 5		3.NBT.3
17	O	3	NC.3.NF.1	Full	2 - Skill/Concept	Level 5		3.NF.3
18	O	3	NC.3.OA.3	Partial	1 - Recall	Level 4		3.OA.2
19	O	3	NC.3.NF.3	Partial	2 - Skill/Concept	Level 5		3.NF.3
20	O	3	NC.3.OA.8	Full	2 - Skill/Concept	Level 5		3.OA.8
21	O	3	NC.3.OA.9	Full	2 - Skill/Concept	Level 4		3.OA.9
22	O	3	NC.3.OA.8	Partial	2 - Skill/Concept	Level 3		3.OA.8

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
23	O	3	NC.3.MD.8	Full	2 - Skill/Concept	Level 4		3.MD.8
24	O	3	NC.3.MD.3	Full	2 - Skill/Concept	Level 4		3.MD.3
25	O	3	NC.3.MD.7	Full	2 - Skill/Concept	Level 4		3.MD.7
26	O	4	NC.4.NF.3	Full	1 - Recall	Level 4		3.NF.2
27	O	3	NC.3.NF.3	Partial	2 - Skill/Concept	Level 5		3.NF.3
28	O	3	NC.3.MD.8	Full	2 - Skill/Concept	Level 4		3.MD.8
29	O	3	NC.3.NBT.2	Full	2 - Skill/Concept	Level 5		3.NBT.2
30	O	3	NC.3.G.1	Partial	1 - Recall	Level 3		3.G.1
31	O	3	NC.3.OA.3	Full	2 - Skill/Concept	Level 5		3.OA.3
32	O	3	NC.3.OA.3	Partial	1 - Recall	Level 5		3.MD.2
33	O	3	NC.3.NF.4	Full	2 - Skill/Concept	Level 4		3.NF.4
34	O	3	NC.3.MD.7	Full	1 - Recall	Level 4		3.MD.7
35	O	3	NC.3.NF.3	Full	2 - Skill/Concept	Level 5		3.NF.2
36	O	3	NC.3.MD.7	Full	3 - Strategic Thinking	Level 4		3.MD.7
37	O	3	NC.3.NF.4	Full	2 - Skill/Concept	Level 3		3.NF.4
38	O	3	NC.3.NF.1	Full	2 - Skill/Concept	Level 4		3.NF.2
39	O	3	NC.3.MD.1	Full	2 - Skill/Concept	Level 4		3.MD.1
40	O	3	NC.3.NBT.3	Partial	2 - Skill/Concept	Level 5		3.NBT.3

**Table 22: Detailed Results, Math 4 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	4	NC.4.NBT.5	Full	2 - Skill/Concept	Level 4		4.NBT.5
2	M	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 4		4.NBT.6
3	M	4	NC.4.NF.1	Full	2 - Skill/Concept	Level 3		4.NF.1
4	M	4	NC.4.G.2	Full	2 - Skill/Concept	Level 4		4.G.1
5	M	4	NC.4.OA.3	Partial	2 - Skill/Concept	Level 4		4.OA.3
6	M	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 4		4.NBT.4
7	M	4	NC.4.OA.1	Full	2 - Skill/Concept	Level 4		4.OA.1
8	M	4	NC.4.MD.4	Partial	1 - Recall	Level 4		4.MD.4
9	M	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 4		4.NBT.6
10	M	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 5	NC.4.OA.3	4.OA.3
11	M	4	NC.4.NF.4	Full	2 - Skill/Concept	Level 4		4.NF.4
12	M	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 4		4.NBT.4
13	M	4	NC.4.NF.1	Full	2 - Skill/Concept	Level 3		4.NF.1
14	M	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 4		4.NBT.4
15	M	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 4	NC.4.OA.3	4.NBT.6
16	M	4	NC.4.NF.2	Partial	2 - Skill/Concept	Level 5		4.NF.2
17	M	4	NC.4.OA.3	Partial	2 - Skill/Concept	Level 5	NC.4.NBT.5	4.NBT.5
18	M	4	NC.4.NF.3	Partial	2 -	Level		4.NF.3



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept	4		
19	M	4	NC.4.NF.3	Partial	2 - Skill/Concept	Level 3	NC.4.NF.1	4.NF.1
20	M	4	NC.4.NBT.5	Full	2 - Skill/Concept	Level 4		4.NBT.5
21	M	4	NC.4.MD.1	Full	2 - Skill/Concept	Level 3		4.MD.1
22	M	4	NC.4.OA.3	Partial	2 - Skill/Concept	Level 4		4.OA.5
23	M	4	NC.4.NF.6	Partial	2 - Skill/Concept	Level 5		4.NF.6
24	M	4	NC.4.MD.2	Full	2 - Skill/Concept	Level 4		4.MD.2
25	M	4	NC.4.MD.3	Partial	2 - Skill/Concept	Level 4		4.MD.3
26	M	4	NC.4.NF.7	Partial	2 - Skill/Concept	Level 3		4.NF.7
27	M	4	NC.4.OA.4	Full	1 - Recall	Level 4		4.OA.4
28	M	4	NC.4.NF.2	Partial	2 - Skill/Concept	Level 5		4.NF.2
29	M	4	NC.4.NBT.7	Partial	2 - Skill/Concept	Level 3		4.NBT.7
30	M	4	NC.4.MD.2	Partial	2 - Skill/Concept	Level 4		4.MD.2
31	M	4	NC.4.NF.4	Full	2 - Skill/Concept	Level 5		4.NF.4
32	M	4	NC.4.G.3	Full	1 - Recall	Level 3		4.G.3
33	M	4	NC.4.NF.7	Full	2 - Skill/Concept	Level 4		4.NF.7
34	M	4	NC.4.MD.3	Partial	2 - Skill/Concept	Level 5	NC.4.OA.3	4.MD.3
35	M	4	NC.4.NF.7	Partial	1 - Recall	Level 5		4.NF.7
36	M	4	NC.4.OA.1	Full	2 -	Level		4.OA.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept	4		
37	M	4	NC.4.MD.6	Full	2 - Skill/Concept	Level 5		4.MD.6
38	M	4	NC.4.NBT.5	Full	1 - Recall	Level 3		4.MD.1
39	M	4	NC.4.NF.3	Full	2 - Skill/Concept	Level 4		4.NF.3
40	M	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 5		4.NBT.6

**Table 23: Detailed Results, Math 4 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 4		4.OA.3
2	N	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 4		4.NBT.4
3	N	4	NC.4.G.2	Full	2 - Skill/Concept	Level 4		4.G.1
4	N	4	NC.4.NF.4	Full	2 - Skill/Concept	Level 4		4.NF.4
5	N	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 5		4.NBT.6
6	N	4	NC.4.G.3	Full	1 - Recall	Level 3		4.G.3
7	N	4	NC.4.NF.7	Partial	1 - Recall	Level 5		4.NF.7
8	N	4	NC.4.NF.3	Full	2 - Skill/Concept	Level 4		4.NF.3
9	N	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 4		4.NBT.6
10	N	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 4		4.NBT.4
11	N	4	NC.4.NF.4	Full	1 - Recall	Level 4		4.NF.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
12	N	4	NC.4.MD.2	Partial	1 - Recall	Level 4		4.MD.2
13	N	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 5	NC.K.OA.3	4.NBT.4
14	N	4	NC.4.NF.4	Full	1 - Recall	Level 4		4.NF.4
15	N	4	NC.4.NBT.5	Full	2 - Skill/Concept	Level 5		4.NBT.5
16	N	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 5		4.NBT.6
17	N	4	NC.4.NF.3	Full	3 - Strategic Thinking	Level 5		4.NF.3
18	N	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 4		4.NBT.6
19	N	4	NC.4.NF.1	Partial	2 - Skill/Concept	Level 3		4.NF.1
20	N	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 5		4.NBT.6
21	N	4	NC.4.MD.3	Partial	2 - Skill/Concept	Level 3		4.MD.3
22	N	4	NC.4.OA.3	Partial	3 - Strategic Thinking	Level 5		4.OA.5
23	N	4	NC.4.NF.2	Partial	2 - Skill/Concept	Level 4		4.NF.2
24	N	4	NC.4.OA.1	Full	2 - Skill/Concept	Level 5		4.OA.1
25	N	4	NC.4.NF.4	Full	2 - Skill/Concept	Level 4		4.NF.4
26	N	4	NC.4.MD.6	Partial	2 - Skill/Concept	Level 3		4.MD.6
27	N	4	NC.4.OA.4	Full	1 - Recall	Level 4		4.OA.4
28	N	4	NC.4.MD.3	Full	2 - Skill/Concept	Level 5		4.MD.3
29	N	4	NC.4.NF.3	Partial	2 - Skill/Concept	Level 4		4.NF.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
30	N	4	NC.4.MD.6	Partial	2 - Skill/Concept	Level 3		4.MD.6
31	N	4	NC.4.NBT.7	Full	1 - Recall	Level 3		4.NBT.7
32	N	4	NC.4.G.2	Full	2 - Skill/Concept	Level 4		4.G.2
33	N	4	NC.4.MD.3	Full	2 - Skill/Concept	Level 4		4.MD.3
34	N	4	NC.4.OA.1	Full	2 - Skill/Concept	Level 5	NC.4.OA.3	4.OA.1
35	N	4	NC.4.MD.8	Full	2 - Skill/Concept	Level 5		4.MD.8
36	N	4	NC.4.NF.1	Full	2 - Skill/Concept	Level 3		4.NF.1
37	N	4	NC.4.NF.6	Full	2 - Skill/Concept	Level 4		4.NF.6
38	N	4	NC.4.NBT.2	Full	1 - Recall	Level 4		4.NBT.2
39	N	4	NC.4.NF.7	Full	1 - Recall	Level 3		4.NF.6
40	N	4	NC.4.OA.1	Full	2 - Skill/Concept	Level 3		4.OA.3

**Table 24: Detailed Results, Math 4 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 3		4.NBT.4
2	O	4	NC.4.NBT.6	Partial	2 - Skill/Concept	Level 3		4.NBT.6
3	O	4	NC.4.NF.4	Full	2 - Skill/Concept	Level 4		4.NF.4
4	O	4	NC.4.OA.1	Full	2 - Skill/Concept	Level 4		4.OA.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
5	O	4	NC.4.NF.1	Full	2 - Skill/Concept	Level 3		4.NF.1
6	O	4	NC.4.NF.6	Full	2 - Skill/Concept	Level 4		4.NF.6
7	O	4	NC.4.NBT.6	Partial	2 - Skill/Concept	Level 4		4.NBT.6
8	O	4	NC.4.G.2	Partial	1 - Recall	Level 4		4.G.2
9	O	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 4		4.NBT.6
10	O	4	NC.4.OA.1	Full	1 - Recall	Level 4		4.OA.1
11	O	4	NC.4.NBT.4	Full	2 - Skill/Concept	Level 4		4.NBT.4
12	O	4	NC.4.NBT.5	Partial	2 - Skill/Concept	Level 3		4.NBT.5
13	O	4	NC.4.NF.3	Partial	2 - Skill/Concept	Level 5		4.NF.3
14	O	4	NC.4.NBT.6	Partial	2 - Skill/Concept	Level 5		4.NBT.6
15	O	4	NC.4.NF.6	Full	1 - Recall	Level 4		4.NF.7
16	O	4	NC.4.NF.4	Full	2 - Skill/Concept	Level 4		4.NF.4
17	O	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 5		4.NBT.6
18	O	4	NC.4.NF.3	Full	2 - Skill/Concept	Level 5		4.NF.3
19	O	4	NC.4.NF.3	Full	2 - Skill/Concept	Level 5		4.NF.4
20	O	4	NC.4.NBT.5	Partial	2 - Skill/Concept	Level 5		4.NBT.5
21	O	4	NC.4.MD.3	Partial	2 - Skill/Concept	Level 4		4.MD.3
22	O	4	NC.4.NBT.2	Full	1 - Recall	Level 4		4.NBT.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
23	O	4	NC.4.OA.3	Partial	2 - Skill/Concept	Level 5		4.OA.5
24	O	4	NC.4.MD.3	Partial	2 - Skill/Concept	Level 4		4.MD.3
25	O	4	NC.4.NF.2	Partial	2 - Skill/Concept	Level 5		4.NF.2
26	O	4	NC.4.MD.6	Partial	2 - Skill/Concept	Level 3		4.MD.6
27	O	4	NC.4.NF.6	Full	2 - Skill/Concept	Level 5		4.NF.6
28	O	4	NC.4.OA.1	Partial	2 - Skill/Concept	Level 4	NC.4.MD.3	4.OA.5
29	O	4	NC.4.G.3	Full	1 - Recall	Level 3		4.G.3
30	O	4	NC.4.NBT.7	Full	2 - Skill/Concept	Level 5		4.NBT.7
31	O	4	NC.4.MD.1	Full	2 - Skill/Concept	Level 4		4.MD.1
32	O	4	NC.4.NF.1	Partial	2 - Skill/Concept	Level 3		4.NF.1
33	O	4	NC.4.OA.4	Full	2 - Skill/Concept	Level 4		4.OA.4
34	O	4	NC.4.MD.2	Full	2 - Skill/Concept	Level 4	NC.3.OA.3	4.MD.2
35	O	4	NC.4.G.2	Full	1 - Recall	Level 3		4.G.2
36	O	4	NC.4.NF.7	Partial	2 - Skill/Concept	Level 4		4.NF.7
37	O	4	NC.4.MD.4	Partial	2 - Skill/Concept	Level 4	NC.4.OA.1	4.MD.4
38	O	4	NC.4.OA.3	Partial	2 - Skill/Concept	Level 5	NC.4.OA.1	4.OA.3
39	O	4	NC.4.MD.8	Full	2 - Skill/Concept	Level 4		4.MD.8
40	O	4	NC.4.NF.6	Partial	1 - Recall	Level 3		4.NF.6

**Table 25: Detailed Results, Math 5 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	5	NC.5.NBT.6	Partial	1 - Recall	Level 3		5.NBT.6
2	M	5	NC.5.NF.7	Full	1 - Recall	Level 3		5.NF.7
3	M	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 3		5.NF.1
4	M	5	NC.5.NBT.6	Full	2 - Skill/Concept	Level 4		5.NF.3
5	M	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 3		5.NF.1
6	M	5	NC.5.NBT.7	Full	1 - Recall	Level 4		5.NBT.7
7	M	5	NC.5.NF.3	Full	3 - Strategic Thinking	Level 4		5.NF.4
8	M	5	NC.5.NBT.6	Full	2 - Skill/Concept	Level 4		5.NBT.6
9	M	5	NC.5.NF.4	Full	2 - Skill/Concept	Level 4		5.NF.4
10	M	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 3		5.NF.1
11	M	5	NC.5.NF.4	Partial	2 - Skill/Concept	Level 3		5.NF.4
12	M	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Level 4	NC.5.NF.3	5.NF.3
13	M	5	NC.5.NF.4	Partial	2 - Skill/Concept	Level 3	NC.5.NF.3	5.NF.4
14	M	5	NC.5.OA.2	Full	2 - Skill/Concept	Level 4		5.OA.2
15	M	5	NC.5.NF.3	Full	2 - Skill/Concept	Not Proficient		5.NF.3
16	M	5	NC.5.NBT.5	Full	2 - Skill/Concept	Level 3		5.NBT.5
17	M	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 4		5.NF.1
18	M	5	NC.5.NBT.5	Full	2 - Skill/Concept	Level 3		5.NBT.5
19	M	5	NC.5.NF.7	Full	2 -	Level 4		5.NF.7

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept			
20	M	5	NC.5.NBT.5	Full	2 - Skill/Concept	Level 3		5.NBT.5
21	M	5	NC.5.NF.4	Full	2 - Skill/Concept	Not Proficient		5.NF.4
22	M	5	NC.5.NF.1	Full	2 - Skill/Concept	Not Proficient		5.NF.1
23	M	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Not Proficient		5.NBT.6
24	M	5	NC.5.NF.4	Full	1 - Recall	Level 3		5.NF.4
25	M	6	NC.6.G.2	Full	2 - Skill/Concept	Level 3		5.MD.5
26	M	5	NC.5.G.1	Full	3 - Strategic Thinking	Level 3		5.G.1
27	M	5	NC.5.NBT.3	Full	3 - Strategic Thinking	Level 3		5.NBT.3
28	M	7	NC.7.EE.4.a	Full	2 - Skill/Concept	Level 4		5.NBT.7
29	M	5	NC.5.NBT.3	Full	1 - Recall	Level 3		5.NBT.3
30	M	5	NC.5.OA.2	Full	2 - Skill/Concept	Level 3		5.OA.2
31	M	5	NC.5.MD.5	Full	3 - Strategic Thinking	Level 5		5.MD.5
32	M	5	NC.5.OA.3	Partial	2 - Skill/Concept	Level 3		5.OA.3
33	M	5	NC.5.MD.1	Full	2 - Skill/Concept	Level 3		5.MD.1
34	M	5	NC.5.MD.2	Full	2 - Skill/Concept	Level 3		5.MD.2
35	M	5	NC.5.MD.1	Full	2 - Skill/Concept	Level 5		5.MD.1
36	M	5	NC.5.OA.3	Full	2 - Skill/Concept	Level 3		5.OA.3
37	M	5	NC.5.G.3	Full	1 - Recall	Level 3		5.G.3
38	M	5	NC.5.MD.2	Partial	2 -	Level 3		5.MD.2



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept			
39	M	5	NC.5.NF.3	Full	2 - Skill/Concept	Not Proficient		5.NF.3
40	M	5	NC.5.OA.3	Partial	2 - Skill/Concept	Not Proficient		5.OA.3

**Table 26: Detailed Results, Math 5 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	5	NC.5.NBT.5	Full	2 - Skill/Concept	Level 3		5.NBT.5
2	N	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 4		5.NF.1
3	N	5	NC.5.NF.4	Full	2 - Skill/Concept	Level 3		5.NF.4
4	N	5	NC.5.G.3	Full	1 - Recall	Level 3		5.G.3
5	N	5	NC.5.NF.3	Full	2 - Skill/Concept	Not Proficient		5.NF.7
6	N	5	NC.5.OA.2	Full	2 - Skill/Concept	Level 3		5.OA.2
7	N	5	NC.5.NF.7	Full	2 - Skill/Concept	Level 4		5.NF.3
8	N	5	NC.5.OA.2	Full	2 - Skill/Concept	Level 4		5.OA.2
9	N	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Level 3		5.NBT.6
10	N	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 3		5.NF.1
11	N	5	NC.5.NF.4	Full	2 - Skill/Concept	Level 4		5.NF.4
12	N	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 3		5.NF.1
13	N	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Level 3		5.NBT.6

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
14	N	5	NC.5.NF.3	Full	2 - Skill/Concept	Level 4		5.NF.3
15	N	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 3		5.NF.1
16	N	5	NC.5.MD.5	Full	3 - Strategic Thinking	Level 3		5.MD.5
17	N	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Not Proficient		5.NBT.6
18	N	5	NC.5.NF.1	Full	2 - Skill/Concept	Not Proficient		5.NF.1
19	N	5	NC.5.NF.4	Full	2 - Skill/Concept	Level 4		5.NF.4
20	N	5	NC.5.NBT.5	Full	2 - Skill/Concept	Level 5		5.NBT.5
21	N	5	NC.5.NF.3	Full	2 - Skill/Concept	Not Proficient		5.NF.7
22	N	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Not Proficient		5.NBT.6
23	N	5	NC.5.NBT.7	Full	2 - Skill/Concept	Level 3		5.NBT.7
24	N	5	NC.5.NF.4	Full	2 - Skill/Concept	Level 3		5.NF.4
25	N	5	NC.5.NF.4	Full	1 - Recall	Level 3		5.NF.7
26	N	5	NC.5.G.3	Full	1 - Recall	Not Proficient		5.G.3
27	N	5	NC.5.MD.2	Full	1 - Recall	Not Proficient		5.MD.2
28	N	5	NC.5.NBT.3	Full	2 - Skill/Concept	Level 3		5.NBT.7
29	N	5	NC.5.MD.5	Full	3 - Strategic Thinking	Level 4		5.MD.5
30	N	5	NC.5.NBT.3	Full	2 - Skill/Concept	Level 3		5.NBT.3
31	N	5	NC.5.OA.3	Full	3 - Strategic Thinking	Level 4		5.OA.3
32	N	4	NC.4.NBT.6	Full	2 -	Level 3		5.NF.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept			
33	N	5	NC.5.NBT.7	Full	3 - Strategic Thinking	Level 3		5.NBT.7
34	N	5	NC.5.MD.1	Full	2 - Skill/Concept	Level 3		5.MD.1
35	N	5	NC.5.OA.3	Full	2 - Skill/Concept	Level 3		5.OA.3
36	N	5	NC.5.MD.2	Partial	3 - Strategic Thinking	Level 4		5.MD.2
37	N	5	NC.5.NBT.6	Partial	3 - Strategic Thinking	Level 3		5.NBT.7
38	N	5	NC.5.OA.2	Full	3 - Strategic Thinking	Level 4		5.OA.2
39	N	5	NC.5.NF.3	Full	2 - Skill/Concept	Not Proficient		5.NF.3
40	N	5	NC.5.MD.1	Full	2 - Skill/Concept	Level 3		5.MD.1

**Table 27: Detailed Results, Math 5 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	5	NC.5.NBT.5	Full	2 - Skill/Concept	Level 4		5.NBT.5
2	O	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Level 3		5.NBT.6
3	O	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 5		5.NF.1
4	O	5	NC.5.NF.3	Full	2 - Skill/Concept	Level 4		5.NF.3
5	O	5	NC.5.OA.2	Full	2 - Skill/Concept	Level 4		5.OA.2
6	O	5	NC.5.NBT.6	Full	2 - Skill/Concept	Level 5		5.NBT.6
7	O	4	NC.4.NBT.6	Full	2 - Skill/Concept	Level 3		5.NF.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
8	O	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 3		5.NF.1
9	O	5	NC.5.NF.4	Full	2 - Skill/Concept	Level 3		5.NF.7
10	O	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Not Proficient		5.NBT.6
11	O	5	NC.5.NF.4	Full	2 - Skill/Concept	Not Proficient		5.NF.7
12	O	5	NC.5.NF.1	Full	3 - Strategic Thinking	Level 4		5.NF.1
13	O	5	NC.5.NF.3	Full	2 - Skill/Concept	Level 3		5.NF.3
14	O	5	NC.5.NF.3	Full	2 - Skill/Concept	Level 3		5.NF.7
15	O	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 4		5.NF.1
16	O	5	NC.5.NBT.5	Full	2 - Skill/Concept	Not Proficient		5.NBT.5
17	O	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Not Proficient		5.NBT.6
18	O	5	NC.5.NBT.7	Full	2 - Skill/Concept	Level 3		5.NBT.7
19	O	5	NC.5.NF.4	Full	2 - Skill/Concept	Level 4		5.NF.4
20	O	5	NC.5.NBT.5	Full	2 - Skill/Concept	Not Proficient		5.NBT.5
21	O	5	NC.5.MD.5	Full	2 - Skill/Concept	Level 3		5.MD.5
22	O	5	NC.5.NBT.7	Full	2 - Skill/Concept	Level 3		5.NBT.7
23	O	5	NC.5.NF.7	Full	2 - Skill/Concept	Level 4		5.NF.4
24	O	5	NC.5.MD.5	Full	2 - Skill/Concept	Level 3		5.MD.5
25	O	5	NC.5.NF.4	Full	2 - Skill/Concept	Level 3		5.NF.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
26	O	5	NC.5.G.1	Full	2 - Skill/Concept	Not Proficient		5.G.1
27	O	5	NC.5.MD.1	Full	2 - Skill/Concept	Level 3		5.MD.1
28	O	5	NC.5.MD.2	Full	2 - Skill/Concept	Not Proficient		5.MD.2
29	O	5	NC.5.NBT.3	Full	1 - Recall	Not Proficient		5.NBT.3
30	O	5	NC.5.NF.4	Full	2 - Skill/Concept	Level 3		5.NF.4
31	O	5	NC.5.OA.2	Full	2 - Skill/Concept	Level 3		5.OA.2
32	O	5	NC.5.G.3	Full	1 - Recall	Level 4		5.G.3
33	O	5	NC.5.NBT.6	Partial	2 - Skill/Concept	Level 3		5.OA.3
34	O	5	NC.5.NF.7	Full	2 - Skill/Concept	Level 3		5.NF.3
35	O	5	NC.5.MD.1	Full	2 - Skill/Concept	Level 3		5.MD.1
36	O	5	NC.5.NBT.1	Full	2 - Skill/Concept	Not Proficient		5.OA.3
37	O	5	NC.5.G.1	Partial	3 - Strategic Thinking	Level 3		5.MD.2
38	O	5	NC.5.NBT.3	Full	2 - Skill/Concept	Level 3		5.NBT.7
39	O	5	NC.5.NF.1	Full	2 - Skill/Concept	Level 3		5.NF.1
40	O	5	NC.5.OA.2	Full	3 - Strategic Thinking	Level 3		5.OA.3

**Table 28: Detailed Results, Math 6 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	6	NC.6.EE.7	Full	2 - Skill/Concept	Level 4	NC.6.EE.1	6.EE.1
2	M	6	NC.6.EE.2	Partial	2 - Skill/Concept	Level 3		6.EE.2
3	M	6	NC.6.NS.8	Full	2 - Skill/Concept	Level 3		6.G.3
4	M	6	NC.6.EE.8	Full	2 - Skill/Concept	Not Proficient		6.EE.8
5	M	6	NC.6.EE.6	Full	3 - Strategic Thinking	Level 4		6.EE.3
6	M	6	NC.6.NS.5	Partial	1 - Recall	Level 4		6.NS.5
7	M	6	NC.6.EE.2	Full	2 - Skill/Concept	Level 3		6.EE.6
8	M	6	NC.6.EE.2	Full	2 - Skill/Concept	Level 3		6.EE.2
9	M	6	NC.6.NS.8	Full	2 - Skill/Concept	Level 3		6.NS.8
10	M	6	NC.6.EE.8	Partial	1 - Recall	Level 4		6.EE.8
11	M	6	NC.6.EE.1	Partial	1 - Recall	Level 3		6.NS.3
12	M	6	NC.6.EE.1	Full	2 - Skill/Concept	Level 4		6.EE.1
13	M	6	NC.6.RP.2	Full	2 - Skill/Concept	Level 5		6.NS.1
14	M	6	NC.6.EE.3	Full	2 - Skill/Concept	Level 4		6.EE.3
15	M	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 3		6.NS.2
16	M	6	NC.6.NS.3	Full	2 - Skill/Concept	Level 3		6.EE.7
17	M	6	NC.6.NS.1	Full	2 - Skill/Concept	Level 3		6.NS.1
18	M	6	NC.6.RP.3	Partial	2 - Skill/Concept	Not Proficient		6.RP.3
19	M	6	NC.6.SP.3.a	Partial	2 -	Level 3	NC.6.NS.3	6.SP.3.a

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept			
20	M	6	NC.6.NS.4	Full	3 - Strategic Thinking	Level 3		6.NS.4
21	M	6	NC.6.NS.6.b	Partial	2 - Skill/Concept	Level 3		6.NS.8
22	M	6	NC.6.RP.3	Full	1 - Recall	Level 3		6.RP.1
23	M	6	NC.6.G.4	Full	2 - Skill/Concept	Level 3		6.G.4
24	M	6	NC.6.NS.9	Full	2 - Skill/Concept	Level 3		6.NS.9.a
25	M	6	NC.6.SP.3.a	Partial	3 - Strategic Thinking	Level 4		6.SP.3.a
26	M	6	NC.6.SP.4	Full	2 - Skill/Concept	Level 4		6.SP.4
27	M	6	NC.6.G.3	Full	2 - Skill/Concept	Level 4		6.G.1
28	M	6	NC.6.RP.3	Partial	2 - Skill/Concept	Not Proficient		6.RP.3
29	M	6	NC.6.EE.7	Full	2 - Skill/Concept	Level 4		6.EE.9
30	M	6	NC.6.RP.3	Full	2 - Skill/Concept	Not Proficient		6.RP.1
31	M	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 4		6.RP.4
32	M	6	NC.6.SP.4	Partial	3 - Strategic Thinking	Level 4		6.SP.4
33	M	6	NC.6.G.2	Full	2 - Skill/Concept	Level 3		6.G.2
34	M	6	NC.6.NS.9	Partial	3 - Strategic Thinking	Level 5		6.NS.7.a
35	M	6	NC.6.G.4	Partial	2 - Skill/Concept	Level 3		6.G.4
36	M	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 3		6.RP.4
37	M	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 4		6.RP.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
38	M	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 3		6.RP.3
39	M	6	NC.6.RP.3	Full	3 - Strategic Thinking	Level 3		6.RP.4
40	M	6	NC.6.SP.3.a	Partial	3 - Strategic Thinking	Level 4		6.SP.3.a
41	M	6	NC.6.SP.3.a	Full	2 - Skill/Concept	Level 4		6.SP.5.b
42	M	6	NC.6.G.4	Full	2 - Skill/Concept	Level 4		6.G.4
43	M	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 3		6.RP.4
44	M	6	NC.6.RP.2	Full	3 - Strategic Thinking	Level 3		6.RP.1
45	M	6	NC.6.RP.3	Partial	2 - Skill/Concept	Level 4		6.RP.3

**Table 29: Detailed Results, Math 6 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	6	NC.6.NS.7.a	Partial	1 - Recall	Not Proficient		6.NS.7.a
2	N	6	NC.6.EE.8	Full	2 - Skill/Concept	Level 3		6.EE.2
3	N	6	NC.6.NS.2	Full	2 - Skill/Concept	Level 5		6.NS.2
4	N	6	NC.6.EE.2	Full	2 - Skill/Concept	Level 4		6.EE.6
5	N	6	NC.6.EE.7	Full	3 - Strategic Thinking	Level 4		6.EE.9
6	N	6	NC.6.NS.5	Full	3 - Strategic Thinking	Level 5		6.NS.5
7	N	6	NC.6.EE.7	Full	3 - Strategic Thinking	Level 4		6.EE.9



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
8	N	6	NC.6.SP.3.b	Full	3 - Strategic Thinking	Level 4		6.SP.4
9	N	6	NC.6.NS.9	Partial	1 - Recall	Not Proficient		6.NS.7.a
10	N	6	NC.6.EE.7	Full	2 - Skill/Concept	Level 4		6.EE.7
11	N	6	NC.6.G.3	Full	2 - Skill/Concept	Level 4		6.G.3
12	N	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 3		6.EE.1
13	N	6	NC.6.EE.7	Full	3 - Strategic Thinking	Level 4		6.EE.7
14	N	6	NC.6.RP.3	Full	3 - Strategic Thinking	Level 5		6.EE.2
15	N	6	NC.6.EE.7	Full	3 - Strategic Thinking	Level 4		6.NS.3
16	N	7	NC.7.NS.2.b	Full	2 - Skill/Concept	Level 3		6.EE.7
17	N	6	NC.6.NS.6.b	Full	3 - Strategic Thinking	Level 5		6.NS.8
18	N	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 4		6.RP.3
19	N	6	NC.6.G.2	Full	2 - Skill/Concept	Level 3		6.G.2
20	N	6	NC.6.SP.3.a	Full	3 - Strategic Thinking	Level 4		6.SP.3.a
21	N	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 3		6.RP.3
22	N	6	NC.6.SP.3.a	Full	2 - Skill/Concept	Level 4		6.SP.5.b
23	N	6	NC.6.G.4	Full	3 - Strategic Thinking	Level 4		6.G.4
24	N	6	NC.6.NS.4	Full	2 - Skill/Concept	Level 3		6.NS.4
25	N	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 3		6.RP.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
26	N	6	NC.6.NS.4	Full	3 - Strategic Thinking	Level 4		6.NS.4
27	N	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 4		6.RP.4
28	N	6	NC.6.SP.3.a	Full	2 - Skill/Concept	Level 4		6.SP.5.b
29	N	6	NC.6.RP.4	Full	3 - Strategic Thinking	Level 4		6.RP.4
30	N	6	NC.6.RP.1	Full	1 - Recall	Level 3		6.RP.1
31	N	6	NC.6.EE.1	Partial	1 - Recall	Level 4		6.NS.9.a
32	N	6	NC.6.G.1	Full	2 - Skill/Concept	Level 3		6.G.1
33	N	6	NC.6.EE.3	Full	2 - Skill/Concept	Level 3		6.EE.3
34	N	6	NC.6.SP.3.a	Full	2 - Skill/Concept	Level 4		6.SP.3.a
35	N	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 3		6.RP.3
36	N	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 4		6.RP.4
37	N	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 4		6.RP.3
38	N	6	NC.6.RP.4	Full	3 - Strategic Thinking	Level 4		6.RP.4
39	N	6	NC.6.G.2	Full	2 - Skill/Concept	Level 3		6.G.2
40	N	6	NC.6.SP.3.a	Full	2 - Skill/Concept	Level 3		6.SP.3.a
41	N	6	NC.6.RP.2	Full	2 - Skill/Concept	Level 3		6.RP.1
42	N	6	NC.6.EE.1	Full	2 - Skill/Concept	Level 3		6.NS.4
43	N	6	NC.6.G.4	Full	2 - Skill/Concept	Level 3		6.G.4
44	N	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 4		6.RP.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
45	N	6	NC.6.EE.5	Full	2 - Skill/Concept	Level 3		6.EE.5

**Table 30: Detailed Results, Math 6 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	6	NC.6.EE.8	Partial	1 - Recall	Level 4		6.EE.8
2	O	6	NC.6.NS.2	Full	2 - Skill/Concept	Level 4		6.NS.2
3	O	6	NC.6.EE.7	Full	2 - Skill/Concept	Level 3		6.EE.9
4	O	6	NC.6.RP.1	Full	2 - Skill/Concept	Not Proficient		6.RP.1
5	O	6	NC.6.EE.6	Full	3 - Strategic Thinking	Level 4		6.EE.3
6	O	6	NC.6.EE.2	Full	3 - Strategic Thinking	Level 5		6.EE.6
7	O	6	NC.6.NS.8	Full	2 - Skill/Concept	Level 4		6.G.3
8	O	6	NC.6.EE.2	Partial	2 - Skill/Concept	Level 3		6.EE.2
9	O	6	NC.6.EE.8	Partial	2 - Skill/Concept	Level 3		6.EE.8
10	O	6	NC.6.NS.6.a	Full	2 - Skill/Concept	Level 3		6.NS.6.a
11	O	6	NC.6.NS.1	Full	2 - Skill/Concept	Level 3		6.NS.1
12	O	6	NC.6.EE.1	Full	2 - Skill/Concept	Level 4	NC.6.EE.5	6.EE.2
13	O	6	NC.6.NS.3	Partial	2 - Skill/Concept	Level 3		6.NS.3
14	O	6	NC.6.NS.3	Partial	2 - Skill/Concept	Level 3		6.EE.1
15	O	6	NC.6.G.3	Full	2 -	Level 3		6.G.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept			
16	O	6	NC.6.G.2	Full	2 - Skill/Concept	Level 3		6.G.2
17	O	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 5		6.RP.3
18	O	6	NC.6.EE.1	Full	2 - Skill/Concept	Level 3		6.EE.1
19	O	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 3		6.RP.4
20	O	6	NC.6.RP.3	Partial	2 - Skill/Concept	Level 5		6.RP.3
21	O	6	NC.6.SP.3.a	Partial	2 - Skill/Concept	Level 3		6.SP.5.b
22	O	6	NC.6.NS.6.a	Full	2 - Skill/Concept	Level 3		6.NS.6.a
23	O	6	NC.6.RP.3	Partial	2 - Skill/Concept	Level 3		6.RP.1
24	O	6	NC.6.EE.7	Full	2 - Skill/Concept	Level 3		6.EE.6
25	O	6	NC.6.EE.1	Full	1 - Recall	Level 4		6.NS.9.a
26	O	6	NC.6.NS.4	Full	3 - Strategic Thinking	Level 3		6.NS.4
27	O	6	NC.6.RP.3	Full	2 - Skill/Concept	Level 4		6.RP.1
28	O	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 3		6.RP.4
29	O	6	NC.6.NS.2	Full	3 - Strategic Thinking	Level 3		6.NS.2
30	O	6	NC.6.EE.5	Full	2 - Skill/Concept	Not Proficient		6.EE.5
31	O	6	NC.6.G.4	Full	2 - Skill/Concept	Level 3		6.G.4
32	O	6	NC.6.RP.3	Full	3 - Strategic Thinking	Level 4		6.RP.3
33	O	6	NC.6.SP.4	Full	2 - Skill/Concept	Level 3		6.SP.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
34	O	6	NC.6.SP.3.a	Full	2 - Skill/Concept	Level 3		6.SP.4
35	O	6	NC.6.RP.2	Full	2 - Skill/Concept	Not Proficient		6.RP.1
36	O	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 4		6.RP.4
37	O	6	NC.6.NS.8	Full	2 - Skill/Concept	Level 3		6.NS.8
38	O	6	NC.6.RP.3	Full	3 - Strategic Thinking	Level 3		6.RP.3
39	O	6	NC.6.SP.3.a	Full	2 - Skill/Concept	Level 3		6.SP.5.b
40	O	6	NC.6.RP.4	Full	2 - Skill/Concept	Level 3		6.RP.4
41	O	6	NC.6.SP.3.b	Full	2 - Skill/Concept	Level 4		6.SP.3.a
42	O	6	NC.6.NS.8	Full	2 - Skill/Concept	Level 3		6.NS.8
43	O	6	NC.6.G.3	Full	2 - Skill/Concept	Level 3		6.G.3
44	O	6	NC.6.G.1	Full	2 - Skill/Concept	Level 3		6.G.1
45	O	6	NC.6.SP.4	Full	2 - Skill/Concept	Level 4		6.SP.4

**Table 31: Detailed Results, Math 7 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	7	NC.7.EE.1	Full	2 - Skill/Concept	Level 3		7.EE.1
2	M	7	NC.7.RP.2.c	Full	2 - Skill/Concept	Level 3		7.RP.2.c
3	M	7	NC.7.EE.4.b	Full	2 - Skill/Concept	Level 3		7.EE.4.b

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
4	M	7	NC.7.EE.2	Full	2 - Skill/Concept	Level 3		7.EE.1
5	M	7	NC.7.G.2	Full	3 - Strategic Thinking	Level 4		7.G.2
6	M	7	NC.7.EE.3	Full	1 - Recall	Level 3		7.EE.3
7	M	7	NC.7.RP.2.b	Full	2 - Skill/Concept	Level 3	NC.7.RP.2.b	7.RP.2.b
8	M	7	NC.7.EE.3	Full	2 - Skill/Concept	Level 3		7.EE.1
9	M	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 4		7.RP.3
10	M	7	NC.7.RP.2.c	Full	1 - Recall	Level 3		7.EE.4.a
11	M	7	NC.7.RP.2.b	Full	3 - Strategic Thinking	Level 4		7.EE.4.a
12	M	7	NC.7.G.5	Full	3 - Strategic Thinking	Level 4		7.G.5
13	M	7	NC.7.RP.1	Full	2 - Skill/Concept	Level 3		7.RP.1
14	M	7	NC.7.NS.2.b	Full	3 - Strategic Thinking	Level 3		7.NS.3
15	M	7	NC.7.RP.1	Full	2 - Skill/Concept	Level 3		7.RP.1
16	M	7	NC.7.SP.5	Full	2 - Skill/Concept	Level 3		7.SP.7.a
17	M	7	NC.7.G.1	Full	3 - Strategic Thinking	Level 4		7.G.6
18	M	7	NC.7.NS.2.b	Full	2 - Skill/Concept	Level 3		7.NS.3
19	M	7	NC.7.RP.1	Full	2 - Skill/Concept	Level 3		7.RP.1
20	M	7	NC.7.G.1	Full	3 - Strategic Thinking	Level 4		7.G.1
21	M	7	NC.7.NS.3	Full	3 - Strategic Thinking	Level 4		7.SP.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
22	M	7	NC.7.EE.4.b	Full	2 - Skill/Concept	Level 3		7.EE.4.b
23	M	7	NC.7.NS.2.b	Full	3 - Strategic Thinking	Level 3		7.NS.3
24	M	7	NC.7.SP.3.a	Full	3 - Strategic Thinking	Level 4		7.SP.3.a
25	M	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 4		7.RP.3
26	M	7	NC.7.SP.1	Full	3 - Strategic Thinking	Level 4		7.SP.2
27	M	7	NC.7.NS.2.b	Partial	3 - Strategic Thinking	Level 3		7.EE.4.a
28	M	7	NC.7.RP.2.b	Full	3 - Strategic Thinking	Level 3		7.RP.1
29	M	7	NC.7.EE.4.b	Full	2 - Skill/Concept	Level 3		7.NS.3
30	M	7	NC.7.G.2	Full	2 - Skill/Concept	Level 3		7.G.2
31	M	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 4		7.RP.3
32	M	7	NC.7.SP.6	Full	2 - Skill/Concept	Level 3		7.SP.6
33	M	7	NC.7.SP.5	Partial	2 - Skill/Concept	Level 3	NC.7.NS.2.b	7.SP.2
34	M	7	NC.7.RP.2.c	Full	2 - Skill/Concept	Level 4		7.RP.2.c
35	M	7	NC.7.SP.8.a	Full	3 - Strategic Thinking	Level 4		7.SP.8.a
36	M	7	NC.7.SP.4	Full	2 - Skill/Concept	Level 3		7.SP.4
37	M	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 4		7.RP.2.a
38	M	7	NC.7.G.4	Full	3 - Strategic Thinking	Level 4		7.G.4
39	M	7	NC.7.EE.2	Full	2 - Skill/Concept	Level 3		7.EE.1

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
40	M	7	NC.7.SP.8.a	Full	2 - Skill/Concept	Level 3		7.SP.8.a
41	M	7	NC.7.RP.2.a	Full	3 - Strategic Thinking	Level 4		7.RP.2.a
42	M	7	NC.7.G.5	Partial	2 - Skill/Concept	Level 4	NC.7.EE.4.a	7.G.5
43	M	7	NC.7.SP.7.a	Full	2 - Skill/Concept	Level 3		7.SP.8.b
44	M	7	NC.7.SP.6	Full	2 - Skill/Concept	Level 3		7.SP.7.a
45	M	7	NC.7.NS.2.b	Full	3 - Strategic Thinking	Level 5		7.NS.3

**Table 32: Detailed Results, Math 7 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	7	NC.7.RP.2.a	Full	3 - Strategic Thinking	Level 3		7.RP.2.b
2	N	7	NC.7.EE.4.b	Full	2 - Skill/Concept	Level 4		7.EE.4.b
3	N	7	NC.7.SP.8.b	Full	2 - Skill/Concept	Level 3		7.SP.8.b
4	N	7	NC.7.EE.3	Full	2 - Skill/Concept	Level 3		7.EE.1
5	N	7	NC.7.G.2	Full	2 - Skill/Concept	Level 3		7.G.2
6	N	7	NC.7.EE.3	Full	2 - Skill/Concept	Level 3		7.EE.1
7	N	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 3		7.RP.3
8	N	7	NC.7.EE.3	Full	2 - Skill/Concept	Level 3		7.EE.3
9	N	7	NC.7.SP.1	Full	2 - Skill/Concept	Level 3		7.SP.1



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
10	N	7	NC.7.EE.4.b	Full	2 - Skill/Concept	Level 3		7.EE.4.b
11	N	7	NC.7.G.5	Full	2 - Skill/Concept	Level 4		7.G.5
12	N	7	NC.7.EE.4.a	Full	2 - Skill/Concept	Level 3		7.EE.4.a
13	N	7	NC.7.G.6	Full	3 - Strategic Thinking	Level 3		7.G.4
14	N	7	NC.7.NS.2.b	Full	2 - Skill/Concept	Level 3		7.NS.3
15	N	7	NC.7.RP.1	Full	2 - Skill/Concept	Level 3		7.RP.1
16	N	7	NC.7.EE.4.a	Full	2 - Skill/Concept	Level 3		7.EE.4.a
17	N	7	NC.7.G.5	Full	2 - Skill/Concept	Level 4		7.G.5
18	N	7	NC.7.RP.1	Full	2 - Skill/Concept	Level 3		7.NS.3
19	N	7	NC.7.RP.1	Full	2 - Skill/Concept	Level 3		7.RP.1
20	N	7	NC.7.G.6	Full	3 - Strategic Thinking	Level 3		7.G.6
21	N	7	NC.7.RP.2.b	Full	3 - Strategic Thinking	Level 3		7.RP.2.b
22	N	7	NC.7.SP.6	Full	2 - Skill/Concept	Level 3		7.SP.6
23	N	7	NC.7.RP.2.b	Full	2 - Skill/Concept	Level 3		7.RP.2.a
24	N	7	NC.7.SP.6	Full	2 - Skill/Concept	Level 4		7.SP.6
25	N	7	NC.7.G.1	Full	3 - Strategic Thinking	Level 4		7.G.1
26	N	7	NC.7.SP.3.a	Full	2 - Skill/Concept	Level 3		7.SP.3.a
27	N	7	NC.7.RP.3	Full	2 - Skill/Concept	Level 3		7.RP.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
28	N	7	NC.7.SP.3.a	Full	3 - Strategic Thinking	Level 4		7.SP.4
29	N	7	NC.7.G.4	Partial	3 - Strategic Thinking	Level 4		7.RP.3
30	N	7	NC.7.NS.2.b	Full	3 - Strategic Thinking	Level 4		7.NS.3
31	N	7	NC.7.G.6	Full	3 - Strategic Thinking	Level 4		7.EE.4.a
32	N	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 4		7.RP.1
33	N	7	NC.7.SP.8.a	Full	2 - Skill/Concept	Level 5		7.SP.8.a
34	N	7	NC.7.RP.2.c	Full	2 - Skill/Concept	Level 4		7.RP.2.c
35	N	7	NC.7.SP.8.a	Full	3 - Strategic Thinking	Level 4		7.SP.8.a
36	N	7	NC.7.EE.4.a	Full	2 - Skill/Concept	Level 4		7.EE.4.a
37	N	7	NC.7.NS.2.b	Full	3 - Strategic Thinking	Level 3		7.NS.3
38	N	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 4		7.EE.3
39	N	7	NC.7.RP.1	Full	2 - Skill/Concept	Level 3		7.RP.1
40	N	7	NC.7.RP.2.b	Full	3 - Strategic Thinking	Level 4		7.SP.4
41	N	7	NC.7.NS.2.b	Full	3 - Strategic Thinking	Level 3		7.NS.3
42	N	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 4		7.RP.3
43	N	7	NC.7.SP.7.a	Full	3 - Strategic Thinking	Level 3		7.SP.8.b
44	N	7	NC.7.SP.6	Full	3 - Strategic Thinking	Level 4		7.SP.7.a
45	N	7	NC.7.G.6	Full	2 - Skill/Concept	Level 3		7.G.6

**Table 33: Detailed Results, Math 7 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	7	NC.7.EE.4.b	Full	2 - Skill/Concept	Level 3		7.EE.4.b
2	O	7	NC.7.SP.3.b	Full	3 - Strategic Thinking	Level 3		7.SP.4
3	O	7	NC.7.RP.2.b	Full	3 - Strategic Thinking	Level 4		7.RP.2.c
4	O	7	NC.7.EE.3	Full	2 - Skill/Concept	Level 4		7.EE.1
5	O	7	NC.7.EE.3	Full	2 - Skill/Concept	Level 3		7.EE.3
6	O	7	NC.7.G.2	Full	2 - Skill/Concept	Level 4		7.G.2
7	O	7	NC.7.EE.3	Full	2 - Skill/Concept	Level 3		7.EE.1
8	O	7	NC.7.SP.1	Full	2 - Skill/Concept	Level 3		7.SP.1
9	O	7	NC.7.EE.4.b	Full	3 - Strategic Thinking	Level 4		7.EE.4.b
10	O	7	NC.7.RP.2.b	Full	3 - Strategic Thinking	Level 4		7.RP.2.c
11	O	7	NC.7.NS.2.b	Full	2 - Skill/Concept	Level 4		7.NS.3
12	O	7	NC.7.RP.1	Full	2 - Skill/Concept	Level 4		7.RP.1
13	O	7	NC.7.NS.2.b	Partial	2 - Skill/Concept	Level 3	NC.7.SP.2	7.NS.3
14	O	7	NC.7.G.5	Full	2 - Skill/Concept	Level 5		7.G.5
15	O	7	NC.7.SP.8.a	Full	2 - Skill/Concept	Level 5		7.SP.8.a
16	O	7	NC.7.G.5	Full	3 - Strategic Thinking	Level 5		7.G.5
17	O	7	NC.7.RP.1	Full	3 - Strategic Thinking	Level 4		7.RP.1
18	O	7	NC.7.NS.2.b	Full	2 -	Level 4		7.NS.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept			
19	O	7	NC.7.G.5	Full	2 - Skill/Concept	Level 4		7.G.5
20	O	7	NC.7.SP.6	Full	3 - Strategic Thinking	Level 4		7.SP.7.a
21	O	7	NC.7.RP.1	Full	4 - Extended Thinking	Level 5		7.NS.3
22	O	7	NC.7.RP.2.a	Full	3 - Strategic Thinking	Level 3		7.RP.2.a
23	O	7	NC.7.RP.3	Full	4 - Extended Thinking	Level 5		7.EE.3
24	O	7	NC.7.RP.2.a	Full	3 - Strategic Thinking	Level 3		7.RP.2.a
25	O	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 5		7.EE.3
26	O	7	NC.7.RP.1	Full	3 - Strategic Thinking	Level 3		7.NS.3
27	O	7	NC.7.SP.3.b	Full	3 - Strategic Thinking	Level 3		7.SP.4
28	O	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 5		7.RP.3
29	O	7	NC.7.RP.3	Full	3 - Strategic Thinking	Level 5		7.RP.3
30	O	7	NC.7.EE.4.a	Full	2 - Skill/Concept	Level 5		7.EE.4.a
31	O	7	NC.7.G.4	Partial	2 - Skill/Concept	Level 5		7.G.4
32	O	7	NC.7.SP.8.b	Full	2 - Skill/Concept	Not Proficient		7.SP.8.b
33	O	7	NC.7.G.6	Full	3 - Strategic Thinking	Level 3		7.G.6
34	O	7	NC.7.SP.8.a	Full	2 - Skill/Concept	Level 5		7.SP.8.a
35	O	7	NC.7.RP.1	Full	3 - Strategic Thinking	Level 5		7.RP.3
36	O	7	NC.7.SP.7.a	Full	2 -	Level 3		7.SP.7.a

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept			
37	O	7	NC.7.NS.3	Full	2 - Skill/Concept	Level 5		7.EE.3
38	O	7	NC.7.RP.1	Full	2 - Skill/Concept	Level 3		7.RP.1
39	O	7	NC.7.NS.2.c	Full	2 - Skill/Concept	Level 3	NC.7.EE.2	7.EE.1
40	O	7	NC.7.RP.2.b	Full	3 - Strategic Thinking	Level 3		7.RP.2.b
41	O	7	NC.7.SP.3.b	Full	3 - Strategic Thinking	Level 3		7.SP.4
42	O	7	NC.7.RP.2.b	Full	3 - Strategic Thinking	Level 3		7.RP.2.b
43	O	7	NC.7.SP.3.b	Full	3 - Strategic Thinking	Level 3		7.SP.3.a
44	O	7	NC.7.G.6	Full	3 - Strategic Thinking	Level 4		7.G.6
45	O	7	NC.7.SP.8.c	Full	3 - Strategic Thinking	Level 5		7.SP.6

**Table 34: Detailed Results, Math 8 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	8	NC.8.SP.1	Full	1 - Recall	Level 3		8.SP.1
2	M	8	NC.8.F.3	Full	2 - Skill/Concept	Level 3		8.F.3
3	M	8	NC.8.EE.3	Full	2 - Skill/Concept	Level 4		8.EE.3
4	M	8	NC.8.F.1	Full	1 - Recall	Level 3		8.F.1
5	M	8	NC.8.NS.1	Full	2 - Skill/Concept	Level 3		8.NS.1
6	M	8	NC.8.EE.2	Full	2 - Skill/Concept	Level 3		8.EE.2
7	M	8	NC.8.G.3	Partial	3 - Strategic	Level 4		8.G.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Thinking			
8	M	8	NC.8.F.4	Full	3 - Strategic Thinking	Level 4		8.SP.3
9	M	8	NC.8.F.1	Full	1 - Recall	Level 3		8.F.1
10	M	8	NC.8.F.4	Full	3 - Strategic Thinking	Level 3		8.SP.3
11	M	8	NC.8.EE.1	Full	2 - Skill/Concept	Level 3		8.EE.1
12	M	8	NC.8.F.4	Full	2 - Skill/Concept	Level 3		8.F.4
13	M	8	NC.8.NS.2	Full	2 - Skill/Concept	Level 3		8.NS.2
14	M	8	NC.8.EE.1	Full	2 - Skill/Concept	Level 3		8.EE.1
15	M	8	NC.8.F.4	Full	2 - Skill/Concept	Level 3		8.F.4
16	M	8	NC.8.EE.3	Full	3 - Strategic Thinking	Level 4		8.EE.3
17	M	8	NC.8.EE.7	Full	2 - Skill/Concept	Level 4		8.EE.7
18	M	8	NC.8.F.4	Full	3 - Strategic Thinking	Level 3		8.F.4
19	M	8	NC.8.G.5	Full	3 - Strategic Thinking	Level 3	NC.8.EE.7	8.G.5
20	M	8	NC.8.G.8	Full	2 - Skill/Concept	Level 3		8.G.8
21	M	8	NC.8.F.2	Full	3 - Strategic Thinking	Level 4		8.F.2
22	M	8	NC.8.G.3	Full	2 - Skill/Concept	Not Proficient		8.G.3
23	M	8	NC.8.F.2	Full	3 - Strategic Thinking	Level 4		8.F.2
24	M	8	NC.8.G.8	Full	2 - Skill/Concept	Level 3		8.G.8
25	M	8	NC.8.SP.4	Full	2 - Skill/Concept	Level 4		8.SP.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
26	M	8	NC.8.G.7	Full	3 - Strategic Thinking	Level 4		8.G.7
27	M	8	NC.8.F.5	Full	3 - Strategic Thinking	Level 4		8.F.5
28	M	8	NC.8.EE.8	Full	3 - Strategic Thinking	Level 4		8.EE.8
29	M	8	NC.8.F.1	Full	1 - Recall	Level 3		8.F.1
30	M	8	NC.8.G.7	Full	3 - Strategic Thinking	Level 4		8.G.7
31	M	8	NC.8.F.2	Full	3 - Strategic Thinking	Level 4		8.F.2
32	M	8	NC.8.G.9	Full	2 - Skill/Concept	Level 3		8.G.9
33	M	8	NC.8.SP.1	Full	1 - Recall	Level 3		8.SP.1
34	M	8	NC.8.F.3	Full	1 - Recall	Level 3		8.F.3
35	M	8	NC.8.G.9	Full	2 - Skill/Concept	Level 3		8.G.9
36	M	8	NC.8.EE.8	Full	3 - Strategic Thinking	Level 4		8.EE.8
37	M	8	NC.8.SP.2	Full	3 - Strategic Thinking	Level 4		8.SP.2
38	M	8	NC.8.SP.3	Full	3 - Strategic Thinking	Level 4		8.SP.3
39	M	8	NC.8.G.8	Full	2 - Skill/Concept	Level 3		8.G.7
40	M	8	NC.8.F.2	Full	3 - Strategic Thinking	Level 4		8.F.2
41	M	8	NC.8.G.5	Full	2 - Skill/Concept	Level 3		8.G.5
42	M	8	NC.8.EE.7	Full	3 - Strategic Thinking	Level 3		8.EE.7
43	M	8	NC.8.G.3	Full	2 - Skill/Concept	Level 3		8.G.3
44	M	8	NC.8.G.8	Full	2 - Skill/Concept	Level 3		8.EE.8

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
45	M	8	NC.8.F.4	Full	3 - Strategic Thinking	Level 4		8.F.2

**Table 35: Detailed Results, Math 8 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	8	NC.8.NS.1	Full	2 - Skill/Concept	Level 3		8.NS.1
2	N	8	NC.8.F.3	Partial	1 - Recall	Level 3		8.F.3
3	N	8	NC.8.SP.3	Full	2 - Skill/Concept	Level 5		8.SP.3
4	N	8	NC.8.EE.3	Full	2 - Skill/Concept	Level 4		8.EE.3
5	N	8	NC.8.F.3	Partial	2 - Skill/Concept	Level 4		8.F.3
6	N	8	NC.8.SP.3	Full	3 - Strategic Thinking	Level 5		8.SP.3
7	N	8	NC.8.EE.3	Full	2 - Skill/Concept	Level 4		8.EE.3
8	N	8	NC.8.SP.1	Full	2 - Skill/Concept	Not Proficient		8.SP.1
9	N	8	NC.8.EE.3	Full	2 - Skill/Concept	Level 4		8.EE.4
10	N	8	NC.8.F.5	Full	3 - Strategic Thinking	Level 3		8.F.5
11	N	8	NC.8.NS.2	Full	2 - Skill/Concept	Level 3		8.EE.2
12	N	8	NC.8.NS.2	Full	3 - Strategic Thinking	Level 3		8.NS.2
13	N	8	NC.8.EE.7	Partial	3 - Strategic Thinking	Level 4		8.EE.7
14	N	8	NC.8.F.4	Partial	2 - Skill/Concept	Level 3		8.F.4
15	N	8	NC.8.EE.2	Full	2 -	Level 5		8.EE.2



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept			
16	N	8	NC.8.G.5	Full	2 - Skill/Concept	Level 3	NC.8.EE.7	8.G.5
17	N	8	NC.8.F.4	Full	3 - Strategic Thinking	Level 3		8.F.4
18	N	8	NC.8.EE.7	Full	2 - Skill/Concept	Level 3		8.EE.7
19	N	7	NC.7.G.2	Full	3 - Strategic Thinking	Level 4		8.G.7
20	N	8	NC.8.EE.7	Full	3 - Strategic Thinking	Level 4		8.EE.7
21	N	8	NC.8.G.3	Full	2 - Skill/Concept	Level 3		8.G.3
22	N	8	NC.8.F.2	Full	2 - Skill/Concept	Level 3		8.F.2
23	N	8	NC.8.EE.8	Full	3 - Strategic Thinking	Level 4		8.EE.8
24	N	8	NC.8.F.1	Full	1 - Recall	Level 3		8.F.1
25	N	8	NC.8.G.8	Full	2 - Skill/Concept	Level 3		8.G.8
26	N	8	NC.8.F.3	Full	2 - Skill/Concept	Level 3		8.F.2
27	N	8	NC.8.SP.1	Full	2 - Skill/Concept	Level 3		8.SP.1
28	N	8	NC.8.F.1	Full	1 - Recall	Level 3		8.F.1
29	N	8	NC.8.NS.2	Full	3 - Strategic Thinking	Level 4		8.G.7
30	N	8	NC.8.F.2	Full	3 - Strategic Thinking	Level 4		8.F.2
31	N	8	NC.8.G.3	Full	3 - Strategic Thinking	Level 4		8.G.3
32	N	8	NC.8.F.3	Full	1 - Recall	Level 3		8.F.3
33	N	8	NC.8.G.5	Full	3 - Strategic Thinking	Level 4		8.G.5
34	N	8	NC.8.F.2	Full	2 -	Level 3		8.F.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Skill/Concept			
35	N	8	NC.8.G.9	Full	3 - Strategic Thinking	Level 4		8.G.9
36	N	8	NC.8.SP.1	Full	2 - Skill/Concept	Level 3		8.SP.1
37	N	8	NC.8.G.8	Full	2 - Skill/Concept	Level 3		8.G.8
38	N	8	NC.8.G.8	Full	3 - Strategic Thinking	Level 4		8.G.7
39	N	8	NC.8.SP.3	Full	3 - Strategic Thinking	Level 4		8.SP.3
40	N	8	NC.8.F.1	Full	1 - Recall	Level 3		8.F.1
41	N	8	NC.8.EE.2	Full	3 - Strategic Thinking	Level 3		8.EE.2
42	N	8	NC.8.G.9	Full	3 - Strategic Thinking	Level 4		8.G.9
43	N	8	NC.8.F.5	Full	3 - Strategic Thinking	Level 3		8.F.5
44	N	8	NC.8.SP.3	Full	3 - Strategic Thinking	Level 4		8.SP.3
45	N	8	NC.8.G.8	Full	2 - Skill/Concept	Level 3		8.G.8

**Table 36: Detailed Results, Math 8 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	8	NC.8.SP.1	Full	2 - Skill/Concept	Not Proficient		8.SP.1
2	O	8	NC.8.F.1	Full	1 - Recall	Not Proficient		8.F.1
3	O	8	NC.8.EE.3	Full	1 - Recall	Not Proficient		8.EE.3
4	O	8	NC.8.F.3	Full	1 - Recall	Level 3		8.F.3
5	O	8	NC.8.F.5	Full	3 - Strategic	Level 3		8.F.5

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
					Thinking			
6	O	8	NC.8.NS.1	Full	2 - Skill/Concept	Level 3		8.NS.1
7	O	8	NC.8.EE.1	Full	2 - Skill/Concept	Level 3		8.EE.1
8	O	8	NC.8.F.5	Full	3 - Strategic Thinking	Level 3		8.F.5
9	O	8	NC.8.F.3	Full	2 - Skill/Concept	Level 3		8.F.3
10	O	8	NC.8.SP.3	Full	3 - Strategic Thinking	Level 4		8.SP.3
11	O	8	NC.8.NS.2	Full	2 - Skill/Concept	Level 3		8.NS.2
12	O	8	NC.8.EE.1	Full	2 - Skill/Concept	Level 3		8.EE.1
13	O	8	NC.8.EE.2	Partial	3 - Strategic Thinking	Level 4	NC.7.G.6	8.EE.2
14	O	8	NC.8.F.4	Partial	2 - Skill/Concept	Level 3		8.F.4
15	O	8	NC.8.EE.2	Full	2 - Skill/Concept	Level 3		8.EE.2
16	O	8	NC.8.G.8	Full	2 - Skill/Concept	Level 3		8.G.8
17	O	8	NC.8.F.4	Full	3 - Strategic Thinking	Level 4		8.F.4
18	O	8	NC.8.G.5	Full	2 - Skill/Concept	Level 3		8.G.5
19	O	8	NC.8.EE.7	Full	2 - Skill/Concept	Level 3		8.EE.7
20	O	8	NC.8.G.7	Full	3 - Strategic Thinking	Level 5		8.G.7
21	O	8	NC.8.EE.3	Full	2 - Skill/Concept	Level 3		8.EE.4
22	O	8	NC.8.F.3	Full	1 - Recall	Level 3		8.F.1
23	O	8	NC.8.EE.8	Full	3 - Strategic Thinking	Level 3		8.EE.8

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
24	O	8	NC.8.F.2	Full	2 - Skill/Concept	Level 4		8.F.2
25	O	8	NC.8.G.3	Full	2 - Skill/Concept	Level 3		8.G.3
26	O	8	NC.8.SP.3	Full	2 - Skill/Concept	Level 5		8.SP.3
27	O	8	NC.8.F.2	Full	2 - Skill/Concept	Level 4		8.F.2
28	O	8	NC.8.G.3	Full	2 - Skill/Concept	Level 3		8.G.3
29	O	8	NC.8.F.4	Full	2 - Skill/Concept	Level 4		8.SP.3
30	O	8	NC.8.G.9	Full	2 - Skill/Concept	Level 3		8.G.9
31	O	8	NC.8.EE.3	Full	3 - Strategic Thinking	Level 4		8.EE.4
32	O	8	NC.8.G.7	Full	3 - Strategic Thinking	Level 4		8.G.5
33	O	8	NC.8.F.2	Full	2 - Skill/Concept	Level 4		8.F.2
34	O	8	NC.8.G.8	Full	2 - Skill/Concept	Level 3		8.G.8
35	O	8	NC.8.SP.4	Full	2 - Skill/Concept	Level 5		8.SP.4
36	O	8	NC.8.G.7	Full	2 - Skill/Concept	Level 4		8.G.7
37	O	8	NC.8.EE.7	Full	2 - Skill/Concept	Level 4		8.EE.7
38	O	8	NC.8.G.9	Full	2 - Skill/Concept	Level 3		8.G.9
39	O	8	NC.8.SP.1	Full	2 - Skill/Concept	Level 3		8.SP.1
40	O	8	NC.8.G.3	Full	2 - Skill/Concept	Level 3		8.G.3
41	O	8	NC.8.F.2	Full	3 - Strategic Thinking	Level 3		8.F.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
42	O	8	NC.8.G.7	Full	3 - Strategic Thinking	Level 4		8.G.7
43	O	8	NC.8.G.8	Partial	2 - Skill/Concept	Level 4	NC.8.F.4	8.F.2
44	O	8	NC.8.SP.2	Full	3 - Strategic Thinking	Level 4		8.SP.2
45	O	8	NC.8.F.3	Full	2 - Skill/Concept	Level 4		8.F.3

**Table 37: Detailed Results, NC Math 1 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	M1	NC.M1.A-SSE.3	Partial	4 - Extended Thinking	Level 4	NC.M1.A-APR.1	A-SSE.3
2	M	M1	NC.M1.A-SSE.1.a	Full	2 - Skill/Concept	Level 4		F-IF.8.b
3	M	M1	NC.M1.G-GPE.6	Full	2 - Skill/Concept	Level 4		G-GPE.6
4	M	M1	NC.M1.A-APR.3	Full	2 - Skill/Concept	Level 4		A-REI.4
5	M	M1	NC.M1.A-CED.3	Full	2 - Skill/Concept	Level 3		A-CED.3
6	M	M1	NC.M1.A-REI.1	Full	2 - Skill/Concept	Level 3		A-REI.4
7	M	M1	NC.M1.A-REI.6	Full	2 - Skill/Concept	Level 4		A-REI.6
8	M	M1	NC.M1.F-IF.2	Full	2 - Skill/Concept	Level 3		F-IF.2
9	M	M1	NC.M1.A-APR.3	Full	1 - Recall	Not Proficient		A-APR.3
10	M	M1	NC.M1.S-ID.7	Full	2 - Skill/Concept	Level 3		F-IF.4
11	M	M1	NC.M1.F-IF.8.a	Full	2 - Skill/Concept	Level 4		F-IF.8.a

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
12	M	M1	NC.M1.A-CED.3	Full	2 - Skill/Concept	Level 4		A-CED.3
13	M	M1	NC.M1.F-LE.1	Full	2 - Skill/Concept	Level 4		F-LE.1
14	M	M1	NC.M1.A-REI.6	Full	3 - Strategic Thinking	Level 4		A-CED.1
15	M	M1	NC.M1.G-GPE.6	Full	2 - Skill/Concept	Level 4		G-GPE.6
16	M	M1	NC.M1.F-IF.9	Full	3 - Strategic Thinking	Level 4		F-IF.9
17	M	M1	NC.M1.A-REI.6	Full	3 - Strategic Thinking	Level 4		A-CED.1
18	M	M1	NC.M1.A-CED.2	Full	3 - Strategic Thinking	Level 3		A-CED.2
19	M	M1	NC.M1.A-REI.6	Full	3 - Strategic Thinking	Level 3		A-CED.1
20	M	M1	NC.M1.A-CED.1	Full	3 - Strategic Thinking	Level 3		A-CED.1
21	M	M1	NC.M1.F-IF.8.a	Full	2 - Skill/Concept	Level 3		A-SSE.3
22	M	M1	NC.M1.F-BF.1.a	Full	2 - Skill/Concept	Level 3		F-BF.1.a
23	M	M1	NC.M1.A-REI.3	Full	2 - Skill/Concept	Not Proficient		A-REI.3
24	M	M1	NC.M1.A-REI.6	Full	3 - Strategic Thinking	Level 3		A-REI.6
25	M	M1	NC.M1.G-GPE.5	Full	1 - Recall	Level 3		G-GPE.5
26	M	M1	NC.M1.F-BF.1.b	Full	3 - Strategic Thinking	Level 4		F.BF.1.b
27	M	M1	NC.M1.A-SSE.1.b	Full	3 - Strategic Thinking	Level 5		F.BF.1.b
28	M	M1	NC.M1.S-ID.7	Full	3 - Strategic Thinking	Level 4		S-ID.6.a
29	M	M1	NC.M1.S-ID.3	Full	2 - Skill/Concept	Level 3		S-ID.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
30	M	M1	NC.M1.S-ID.8	Full	2 - Skill/Concept	Level 3		S-ID.8
31	M	M1	NC.M1.A-REI.11	Full	2 - Skill/Concept	Not Proficient		A-REI.11
32	M	M1	NC.M1.F-BF.1.a	Full	2 - Skill/Concept	Level 4		S-ID.6.c
33	M	M1	NC.M1.F-IF.8.b	Full	1 - Recall	Level 3		F-IF.8.b
34	M	M1	NC.M1.F-LE.3	Full	3 - Strategic Thinking	Level 4		F-LE.3
35	M	M1	NC.M1.G-GPE.4	Full	2 - Skill/Concept	Level 3		G-GPE.4
36	M	M1	NC.M1.G-GPE.4	Full	2 - Skill/Concept	Level 3		G-GPE.4
37	M	M1	NC.M1.S-ID.2	Full	3 - Strategic Thinking	Level 3		S-ID.2
38	M	M1	NC.M1.S-ID.6.b	Full	3 - Strategic Thinking	Level 4		S-ID.6.b
39	M	M1	NC.M1.F-IF.2	Full	1 - Recall	Level 3		F-IF.2
40	M	M1	NC.M1.F-IF.2	Full	2 - Skill/Concept	Level 3		F-IF.2
41	M	M1	NC.M1.A-REI.3	Partial	2 - Skill/Concept	Level 3		A-APR.1
42	M	M1	NC.M1.F-IF.6	Full	2 - Skill/Concept	Level 3		F-IF.6
43	M	M1	NC.M1.F-IF.6	Full	2 - Skill/Concept	Not Proficient		F-LE.5
44	M	M1	NC.M1.N-RN.2	Full	2 - Skill/Concept	Level 4		N-RN.2
45	M	M1	NC.M1.S-ID.2	Full	3 - Strategic Thinking	Level 3		S-ID.2
46	M	M1	NC.M1.S-ID.6.a	Full	2 - Skill/Concept	Level 3		S-ID.6.a
47	M	M1	NC.M1.S-ID.6.b	Full	2 - Skill/Concept	Level 4		S-ID.6.b

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
48	M	M1	NC.M1.F-LE.1	Full	2 - Skill/Concept	Level 3		F-LE.1
49	M	M1	NC.M1.F-IF.4	Full	2 - Skill/Concept	Level 3		F-IF.7
50	M	M1	NC.M1.N-RN.2	Full	2 - Skill/Concept	Level 4		N-RN.2

**Table 38: Detailed Results, NC Math 1 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	M1	NC.M1.A-REI.12	Full	2 - Skill/Concept	Level 4		A-REI.12
2	N	M1	NC.M1.A-SSE.1.a	Full	1 - Recall	Level 3		F-IF.8.b
3	N	M1	NC.M1.A-REI.1	Full	2 - Skill/Concept	Level 3		A-REI.4
4	N	M1	NC.M1.A-REI.6	Full	2 - Skill/Concept	Level 4		A-REI.6
5	N	M1	NC.M1.A-CED.3	Full	2 - Skill/Concept	Level 4		A-CED.3
6	N	8	NC.M1.F-LE.5	Full	2 - Skill/Concept	Not Proficient		F-LE.5
7	N	M1	NC.M1.F-IF.2	Full	2 - Skill/Concept	Level 5		F-IF.2
8	N	M1	NC.M1.F-IF.2	Full	2 - Skill/Concept	Level 5	NC.3.OA.3	F-IF.2
9	N	M1	NC.M1.A-CED.4	Full	2 - Skill/Concept	Level 4		A-CED.4
10	N	M1	NC.M1.F-IF.4	Full	2 - Skill/Concept	Level 4		F-IF.4
11	N	M1	NC.M1.F-IF.4	Full	3 - Strategic Thinking	Level 3		F-IF.8.a
12	N	M1	NC.M1.A-CED.3	Full	2 - Skill/Concept	Level 4		A-CED.3



Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
13	N	M1	NC.M1.F-IF.4	Full	2 - Skill/Concept	Level 3		F-LE.5
14	N	M1	NC.M1.G-GPE.5	Full	2 - Skill/Concept	Level 4		G-GPE.5
15	N	M1	NC.M1.N-RN.2	Full	2 - Skill/Concept	Level 4		N-RN.2
16	N	M1	NC.M1.A-APR.3	Full	2 - Skill/Concept	Level 4		A-APR.3
17	N	M1	NC.M1.A-CED.2	Full	3 - Strategic Thinking	Level 3		A-APR.1
18	N	M1	NC.M1.A-REI.11	Full	1 - Recall	Level 3		A-REI.11
19	N	M1	NC.M1.A-CED.4	Full	3 - Strategic Thinking	Level 4		A-CED.1
20	N	M1	NC.M1.A-REI.3	Full	3 - Strategic Thinking	Level 3		A-CED.1
21	N	8	NC.8.SP.3	Full	3 - Strategic Thinking	Level 4		S-ID.7
22	N	M1	NC.M1.S-ID.8	Partial	2 - Skill/Concept	Not Proficient		S-ID.8
23	N	M1	NC.M1.A-REI.3	Full	2 - Skill/Concept	Level 3		A-REI.3
24	N	M1	NC.M1.F-IF.2	Full	2 - Skill/Concept	Level 4		F-IF.2
25	N	8	NC.8.EE.7	Full	2 - Skill/Concept	Level 3		A-REI.6
26	N	M1	NC.M1.A-CED.4	Full	3 - Strategic Thinking	Level 4	NC.M1.A-APR.1	A-APR.1
27	N	M1	NC.M1.F-BF.1.a	Full	2 - Skill/Concept	Level 3		F-BF.1.a
28	N	M1	NC.M1.S-ID.3	Full	3 - Strategic Thinking	Level 3		S-ID.3
29	N	M1	NC.M1.F-BF.1.b	Full	2 - Skill/Concept	Level 3		S-ID.6.c
30	N	M1	NC.M1.S-ID.7	Full	2 - Skill/Concept	Level 4		S-ID.6.b

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
31	N	M1	NC.M1.F-BF.2	Full	2 - Skill/Concept	Level 3		F-BF.2
32	N	M1	NC.M1.G-GPE.6	Full	2 - Skill/Concept	Level 4		G-GPE.6
33	N	M1	NC.M1.S-ID.3	Full	3 - Strategic Thinking	Level 3		S-ID.3
34	N	M1	NC.M1.G-GPE.4	Full	3 - Strategic Thinking	Level 4		G-GPE.4
35	N	M1	NC.M1.N-RN.2	Full	2 - Skill/Concept	Level 3		N-RN.2
36	N	M1	NC.M1.S-ID.7	Partial	2 - Skill/Concept	Not Proficient		F-IF.6
37	N	M1	NC.M1.F-LE.1	Full	3 - Strategic Thinking	Level 4		F-LE.1
38	N	M1	NC.M1.G-GPE.5	Full	2 - Skill/Concept	Level 4		G-GPE.5
39	N	M1	NC.M1.F-IF.7	Full	2 - Skill/Concept	Level 3		F-IF.8.a
40	N	M1	NC.M1.F-LE.3	Full	2 - Skill/Concept	Level 3		F-LE.3
41	N	M1	NC.M1.G-GPE.5	Full	2 - Skill/Concept	Level 4		G-GPE.5
42	N	M1	NC.M1.F-BF.1.a	Full	2 - Skill/Concept	Level 4		F-BF.1.a
43	N	M1	NC.M1.F-BF.1.b	Full	2 - Skill/Concept	Level 4		F-BF.1.b
44	N	M1	NC.M1.F-IF.6	Full	2 - Skill/Concept	Level 3		F-IF.6
45	N	M1	NC.M1.A-SSE.3	Full	2 - Skill/Concept	Level 3		A-SSE.3
46	N	M1	NC.M1.F-BF.1.b	Full	3 - Strategic Thinking	Level 5		A-CED.2
47	N	M1	NC.M1.A-REI.11	Full	2 - Skill/Concept	Level 3		A-REI.11
48	N	M1	NC.M1.S-ID.7	Full	3 - Strategic Thinking	Level 4		S-ID.6.b

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
49	N	M1	NC.M1.S-ID.7	Full	2 - Skill/Concept	Level 4		S-ID.6.a
50	N	8	NC.M1.S-ID.8	Full	2 - Skill/Concept	Level 3		S-ID.8

**Table 39: Detailed Results, NC Math 3 Form M**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	M	M3	NC.M3.A-SSE.2	Full	1 - Recall	Not Proficient		A-SSE.2
2	M	M3	NC.M3.A-REI.11	Full	2 - Skill/Concept	Not Proficient	NC.M3.A-REI.2	A-REI.11
3	M	M3	NC.M3.F-IF.7	Full	2 - Skill/Concept	Level 4		F-IF.4
4	M	M3	NC.M3.F-IF.2	Full	1 - Recall	Level 3		F-IF.2
5	M	M3	NC.M3.F-BF.3	Full	2 - Skill/Concept	Level 3		F-BF.3
6	M	M3	NC.M3.A-APR.6	Full	2 - Skill/Concept	Level 3		A-APR.6
7	M	M3	NC.M3.F-IF.7	Full	2 - Skill/Concept	Level 4		F-IF.7
8	M	M3	NC.M3.F-LE.4	Full	1 - Recall	Level 3		F-LE.4
9	M	M3	NC.M3.A-APR.3	Full	2 - Skill/Concept	Level 3		F-IF.7
10	M	M3	NC.M3.F-BF.1.a	Full	2 - Skill/Concept	Level 3		F-BF.1.a
11	M	M3	NC.M3.A-APR.3	Full	2 - Skill/Concept	Level 4		A-APR.2
12	M	M3	NC.M3.A-REI.2	Full	3 - Strategic Thinking	Level 4		A-CED.1
13	M	M3	NC.M3.A-APR.7.a	Full	2 - Skill/Concept	Level 3		A-APR.7.a

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
14	M	M3	NC.M3.F-LE.4	Full	2 - Skill/Concept	Level 3		F-LE.4
15	M	M3	NC.M3.A-REI.2	Partial	2 - Skill/Concept	Level 3		A-REI.2
16	M	M3	NC.M3.F-BF.4.c	Full	2 - Skill/Concept	Level 3		F-BF.4.c
17	M	M3	NC.M3.G-CO.14	Full	3 - Strategic Thinking	Level 3		G-MG.1
18	M	M3	NC.M3.G-CO.14	Full	3 - Strategic Thinking	Level 3		G-MG.1
19	M	M3	NC.M3.G-CO.14	Full	3 - Strategic Thinking	Level 3		G-CO.14
20	M	M3	NC.M3.G-C.2	Full	2 - Skill/Concept	Level 3		G-C.2
21	M	M3	NC.M3.G-GPE.1	Full	2 - Skill/Concept	Level 3		G-GPE.1
22	M	M3	NC.M3.S-IC.5	Full	3 - Strategic Thinking	Level 4		S-IC.5
23	M	M3	NC.M3.S-IC.1	Partial	1 - Recall	Not Proficient		S-IC.1
24	M	M3	NC.M3.A-SSE.1.a	Full	2 - Skill/Concept	Level 3		A-SSE.1.a
25	M	M3	NC.M3.G-C.2	Full	2 - Skill/Concept	Level 3		F-TF.1
26	M	M3	NC.M3.A-CED.3	Full	3 - Strategic Thinking	Level 4		A-CED.1
27	M	M3	NC.M3.A-REI.2	Partial	2 - Skill/Concept	Level 3		A-REI.2
28	M	M3	NC.M3.A-APR.3	Full	2 - Skill/Concept	Level 5		A-APR.2
29	M	M3	NC.M3.F-IF.2	Full	2 - Skill/Concept	Level 3		F-IF.2
30	M	M3	NC.M3.F-IF.7	Full	3 - Strategic Thinking	Not Proficient		F-IF.7
31	M	M3	NC.M3.F-BF.3	Full	1 - Recall	Level 3		F-BF.3

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
32	M	M3	NC.M3.F-BF.1.a	Full	2 - Skill/Concept	Level 3		F-BF.1.a
33	M	M3	NC.M3.F-LE.4	Full	2 - Skill/Concept	Level 3		F-LE.4
34	M	M3	NC.M3.A-REI.11	Full	2 - Skill/Concept	Not Proficient		A-REI.11
35	M	M3	NC.M3.A-APR.6	Full	2 - Skill/Concept	Level 4		A-APR.6
36	M	M3	NC.M3.A-APR.7.a	Full	2 - Skill/Concept	Level 3		A-APR.7.a
37	M	M3	NC.M3.F-IF.9	Full	3 - Strategic Thinking	Level 3		F-LE.3
38	M	M3	NC.M3.F-IF.2	Full	2 - Skill/Concept	Level 3		F-IF.2
39	M	M3	NC.M3.A-APR.3	Full	2 - Skill/Concept	Level 3		F-BF.1.a
40	M	M3	NC.M3.G-GMD.3	Full	3 - Strategic Thinking	Level 4		A-CED.2
41	M	M3	NC.M3.A-CED.2	Full	3 - Strategic Thinking	Level 4		A-SSE.3
42	M	M3	NC.M3.A-APR.2	Full	3 - Strategic Thinking	Level 4		A-APR.3
43	M	M3	NC.M3.G-C.2	Full	2 - Skill/Concept	Level 3		G-C.2
44	M	M3	NC.M3.S-IC.3	Partial	2 - Skill/Concept	Level 4		S-IC.1
45	M	M3	NC.M3.G-GPE.1	Full	2 - Skill/Concept	Not Proficient		G-GPE.1
46	M	M3	NC.M3.G-CO.10	Full	2 - Skill/Concept	Level 4		G-CO.14
47	M	M3	NC.M3.G-C.5	Full	2 - Skill/Concept	Level 3		G-C.5
48	M	M3	NC.M3.G-GMD.3	Full	3 - Strategic Thinking	Level 4		G-GMD.3
49	M	M3	NC.M3.G-CO.14	Full	3 - Strategic Thinking	Level 3		G-CO.14

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
50	M	M3	NC.M3.S-IC.3	Full	2 - Skill/Concept	Level 4		S-IC.3

**Table 40: Detailed Results, NC Math 3 Form N**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	N	M3	NC.M3.F-LE.4	Full	1 - Recall	Not Proficient		F-LE.4
2	N	M3	NC.M3.F-BF.3	Full	2 - Skill/Concept	Level 3		F-BF.3
3	N	M3	NC.M3.F-BF.3	Full	3 - Strategic Thinking	Level 5		F-BF.3
4	N	M3	NC.M3.F-IF.2	Full	3 - Strategic Thinking	Level 4		A-SSE.1.a
5	N	M3	NC.M3.A-REI.2	Partial	2 - Skill/Concept	Level 4		A-REI.2
6	N	M3	NC.M3.A-APR.7.a	Full	2 - Skill/Concept	Level 3		A-APR.7.a
7	N	M3	NC.M3.F-IF.2	Full	2 - Skill/Concept	Level 3		F-IF.2
8	N	M3	NC.M3.A-APR.2	Full	2 - Skill/Concept	Level 4		A-APR.2
9	N	M3	NC.M3.A-APR.3	Full	2 - Skill/Concept	Level 5		F-IF.7
10	N	M3	NC.M3.A-APR.3	Full	3 - Strategic Thinking	Level 5		F-BF.1.a
11	N	M3	NC.M3.A-APR.3	Full	3 - Strategic Thinking	Level 3		A-SSE.2
12	N	M3	NC.M3.A-CED.3	Full	2 - Skill/Concept	Level 4		A-CED.3
13	N	M3	NC.M3.F-LE.4	Full	2 - Skill/Concept	Level 4		F-BF.4.c
14	N	M3	NC.M3.F-LE.4	Full	2 - Skill/Concept	Level 3		F-LE.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
15	N	M3	NC.M3.A-APR.3	Full	2 - Skill/Concept	Level 4		A-APR.3
16	N	M3	NC.M3.A-REI.11	Full	3 - Strategic Thinking	Level 4		F-IF.9
17	N	M3	NC.M3.A-SSE.2	Full	2 - Skill/Concept	Level 4		A-SSE.3
18	N	M3	NC.M3.F-TF.2.a	Full	3 - Strategic Thinking	Level 4		F-TF.5
19	N	M3	NC.M3.G-C.5	Full	2 - Skill/Concept	Level 3		G-C.5
20	N	M3	NC.M3.G-MG.1	Full	3 - Strategic Thinking	Level 4		G-MG.1
21	N	M3	NC.M3.G-GMD.3	Full	2 - Skill/Concept	Level 3		G-GMD.3
22	N	M3	NC.M3.G-C.2	Full	3 - Strategic Thinking	Level 3		G-C.2
23	N	M3	NC.M3.G-MG.1	Full	2 - Skill/Concept	Level 3		G-CO.14
24	N	M3	NC.M3.G-C.2	Full	2 - Skill/Concept	Level 3		G-C.2
25	N	M3	NC.M3.S-IC.4	Full	3 - Strategic Thinking	Level 4		S-IC.4
26	N	M3	NC.M3.S-IC.5	Full	3 - Strategic Thinking	Level 4		S-IC.5
27	N	M3	NC.M3.A-APR.3	Full	1 - Recall	Not Proficient		A-APR.3
28	N	M3	NC.M3.F-IF.2	Full	1 - Recall	Level 3		F-IF.2
29	N	M3	NC.M3.A-APR.3	Full	2 - Skill/Concept	Level 3		F-IF.7
30	N	M3	NC.M3.A-APR.6	Full	2 - Skill/Concept	Level 4		A-APR.6
31	N	M3	NC.M3.F-TF.1	Full	2 - Skill/Concept	Level 3		F-TF.1
32	N	M3	NC.M3.F-IF.7	Full	2 - Skill/Concept	Level 3		F-IF.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
33	N	M3	NC.M3.F-BF.3	Full	2 - Skill/Concept	Level 3		F-BF.3
34	N	M3	NC.M3.A-CED.2	Full	2 - Skill/Concept	Level 4		A-SSE.3
35	N	M3	NC.M3.F-IF.7	Full	1 - Recall	Not Proficient		F-IF.7
36	N	M3	NC.M3.A-CED.1	Partial	2 - Skill/Concept	Level 3		A-CED.1
37	N	M3	NC.M3.A-REI.2	Partial	2 - Skill/Concept	Level 3		A-REI.2
38	N	M3	NC.M3.A-SSE.1.a	Full	2 - Skill/Concept	Level 3		A-SSE.1.b
39	N	M3	NC.M3.A-APR.2	Full	3 - Strategic Thinking	Level 5		A-APR.2
40	N	M3	NC.M3.A-REI.11	Full	2 - Skill/Concept	Level 4		A-REI.11
41	N	M3	NC.M3.A-SSE.3	Full	2 - Skill/Concept	Level 4		F-LE.4
42	N	M3	NC.M3.F-IF.7	Full	2 - Skill/Concept	Level 4		F-IF.4
43	N	M3	NC.M3.A-SSE.2	Full	2 - Skill/Concept	Level 3		A-SSE.2
44	N	M3	NC.M3.A-APR.7.a	Full	2 - Skill/Concept	Level 3		A-APR.7.a
45	N	M3	NC.M3.G-CO.11	Full	2 - Skill/Concept	Level 3		G-CO.11
46	N	M3	NC.M3.G-CO.10	Full	2 - Skill/Concept	Level 4		G-CO.14
47	N	M3	NC.M3.G-GPE.1	Full	2 - Skill/Concept	Level 5		G-GPE.1
48	N	M3	NC.M3.G-GMD.4	Full	3 - Strategic Thinking	Level 5		G-GMD.3
49	N	M3	NC.M3.S-IC.1	Full	1 - Recall	Level 3		S-IC.1
50	N	M3	NC.M3.S-IC.4	Full	3 - Strategic Thinking	Level 4		S-IC.5



**Table 41: Detailed Results, NC Math 3 Form O**

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
1	O	M3	NC.M1.F-IF.8.b	Full	2 - Skill/Concept	Level 3		A-SSE.1.a
2	O	M3	NC.M3.F-BF.1.a	Full	2 - Skill/Concept	Level 4		F-BF.1.a
3	O	M3	NC.M3.F-IF.7	Full	2 - Skill/Concept	Level 4		F-IF.7
4	O	M3	NC.M3.F-IF.2	Full	2 - Skill/Concept	Level 3		F-IF.2
5	O	M3	NC.M3.A-CED.1	Full	2 - Skill/Concept	Level 4		A-CED.1
6	O	M3	NC.M3.A-SSE.2	Full	2 - Skill/Concept	Level 3		A-SSE.2
7	O	M3	NC.M3.A-APR.2	Full	2 - Skill/Concept	Level 5		A-APR.2
8	O	M3	NC.M3.A-APR.6	Full	2 - Skill/Concept	Level 4		A-APR.6
9	O	M3	NC.M3.F-TF.1	Full	1 - Recall	Level 3		F-TF.2.b
10	O	M3	NC.M3.F-IF.9	Partial	3 - Strategic Thinking	Not Proficient		F-LE.3
11	O	M3	NC.M3.A-CED.1	Full	3 - Strategic Thinking	Level 3	NC.M3.S-IC.4	A-CED.1
12	O	M3	NC.M3.G-GMD.3	Full	3 - Strategic Thinking	Level 3		A-CED.2
13	O	M3	NC.M3.A-REI.2	Full	2 - Skill/Concept	Level 3		A-REI.2
14	O	M3	NC.M3.F-LE.4	Full	2 - Skill/Concept	Level 3		F-LE.4
15	O	M3	NC.M3.F-BF.3	Full	2 - Skill/Concept	Level 3		F-BF.3
16	O	M3	NC.M3.A-APR.7.b	Full	2 - Skill/Concept	Level 4		A-APR.7.b
17	O	M3	NC.M3.F-IF.9	Full	3 - Strategic Thinking	Level 4		F-IF.9
18	O	M3	NC.M3.G-	Full	2 -	Level 3		G-GMD.4

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
			GMD.4		Skill/Concept			
19	O	7	NC.7.G.4	Full	3 - Strategic Thinking	Not Proficient		G-MG.1
20	O	M3	NC.M3.A-APR.3	Partial	2 - Skill/Concept	Level 3	NC.M3.A-APR.2	F-IF.7
21	O	M3	NC.M3.F-LE.4	Full	2 - Skill/Concept	Level 3		F-LE.4
22	O	M3	NC.M3.G-GPE.1	Full	2 - Skill/Concept	Not Proficient		G-GPE.1
23	O	M3	NC.M3.G-C.2	Full	2 - Skill/Concept	Level 3		G-C.2
24	O	M3	NC.M3.G-CO.10	Full	3 - Strategic Thinking	Level 5		G-CO.14
25	O	M3	NC.M3.S-IC.5	Full	3 - Strategic Thinking	Level 4		S-IC.5
26	O	M3	NC.M3.S-IC.1	Full	2 - Skill/Concept	Level 4		S-IC.1
27	O	M3	NC.M3.F-BF.3	Full	2 - Skill/Concept	Level 4		F-BF.3
28	O	M3	NC.M3.A-APR.6	Full	2 - Skill/Concept	Level 4		A-APR.6
29	O	M3	NC.M3.A-APR.7.a	Full	2 - Skill/Concept	Level 3		A-APR.7.a
30	O	M3	NC.M3.F-IF.2	Full	2 - Skill/Concept	Level 3		F-IF.4
31	O	M3	NC.M3.A-APR.3	Full	2 - Skill/Concept	Level 3		F-BF.1.a
32	O	M3	NC.M3.A-CED.1	Full	3 - Strategic Thinking	Level 3	NC.M3.S-IC.4	A-SSE.1.a
33	O	M3	NC.M3.A-APR.3	Full	2 - Skill/Concept	Level 3		A-APR.3
34	O	M3	NC.M3.A-CED.2	Partial	1 - Recall	Level 3		F-BF.4.a
35	O	M3	NC.M3.F-IF.2	Full	2 - Skill/Concept	Level 3		F-IF.2
36	O	M3	NC.M3.A-	Full	1 - Recall	Level 4		A-APR.2

Item	Form	Grade	Standard	Alignment Strength	DOK	ALD	Secondary Standard	Metadata
			APR.2					
37	O	M3	NC.M3.A-REI.2	Full	3 - Strategic Thinking	Level 3		A-CED.1
38	O	M3	NC.M3.F-IF.7	Full	3 - Strategic Thinking	Level 3		F-IF.4
39	O	M3	NC.M3.F-TF.1	Full	1 - Recall	Level 3		F-TF.2.a
40	O	M3	NC.M3.A-REI.11	Full	3 - Strategic Thinking	Not Proficient		A-REI.11
41	O	M3	NC.M3.F-BF.4.c	Full	2 - Skill/Concept	Level 3		F-BF.4.c
42	O	M3	NC.M3.F-BF.1.a	Full	2 - Skill/Concept	Not Proficient		A-CED.2
43	O	M3	NC.M3.G-GMD.3	Full	3 - Strategic Thinking	Level 3		G-GMD.3
44	O	M3	NC.M3.G-C.2	Full	2 - Skill/Concept	Level 3		G-C.2
45	O	M3	NC.M3.G-CO.10	Full	2 - Skill/Concept	Level 4		G-CO.14
46	O	M3	NC.M3.A-CED.3	Full	3 - Strategic Thinking	Level 4		G-MG.1
47	O	M3	NC.M3.G-CO.11	Full	1 - Recall	Not Proficient		G-CO.11
48	O	M3	NC.M3.G-C.5	Full	2 - Skill/Concept	Level 3		G-C.5
49	O	M3	NC.M3.S-IC.3	Partial	1 - Recall	Not Proficient		S-IC.1
50	O	M3	NC.M3.S-IC.4	Full	3 - Strategic Thinking	Level 4		S-IC.4

## **Appendix J – Form Level Results**

## Form Level Analysis

### ELA Grade 3 Form Level Analysis

**Table 1. Categorical Concurrence, ELA Grade 3 Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
3	Language	7	13-15%	17.50%	Strongly Aligned
3	Reading for Informational	19	46-50%	47.50%	Strongly Aligned
3	Reading for Literature	14	32-42%	35.00%	Strongly Aligned

**Table 2. Categorical Concurrence, ELA Grade 3, Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
3	Language	10	13-15%	25.00%	Weakly Aligned
3	Reading for Informational	17	46-50%	42.50%	Strongly Aligned
3	Reading for Literature	13	32-42%	32.50%	Strongly Aligned

**Table 3. Categorical Concurrence, ELA Grade 3, Form P**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
3	Language	8	13-15%	20.51%	Moderately Aligned
3	Reading for Informational	18	46-50%	46.15%	Strongly Aligned
3	Reading for Literature	13	32-42%	33.33%	Strongly Aligned

**Table 4. Depth of Knowledge, ELA Grade 3, Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Language	7	2-2	100.00%	Strongly Aligned
3	Reading for Informational	19	2-3	52.63%	Strongly Aligned
3	Reading for Literature	14	2-3	78.57%	Strongly Aligned

**Table 5. Depth of Knowledge, ELA Grade 3, Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Language	10	2-2	100.00%	Strongly Aligned
3	Reading for Informational	17	2-3	70.59%	Strongly Aligned
3	Reading for Literature	13	2-3	92.31%	Strongly Aligned

**Table 6. Depth of Knowledge, ELA Grade 3, Form P**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Language	8	2-2	100.00%	Strongly Aligned
3	Reading for Informational	18	2-3	50.00%	Strongly Aligned
3	Reading for Literature	13	2-3	76.92%	Strongly Aligned

**Table 7. Range of Knowledge, ELA Grade 3, Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
3	Language	3	66.67%	Strongly Aligned
3	Reading for Informational	5	80.00%	Strongly Aligned
3	Reading for Literature	4	75.00%	Strongly Aligned

**Table 8. Range of Knowledge, ELA Grade 3, Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
3	Language	3	66.67%	Strongly Aligned
3	Reading for Informational	5	80.00%	Strongly Aligned
3	Reading for Literature	4	75.00%	Strongly Aligned

**Table 9. Range of Knowledge, ELA Grade 3, Form P**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
3	Language	3	66.67%	Strongly Aligned
3	Reading for Informational	5	100.00%	Strongly Aligned
3	Reading for Literature	4	75.00%	Strongly Aligned

**Table 10. Balance of Knowledge, ELA Grade 3, Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
3	Language	7	0.67	Moderately Aligned
3	Reading for Informational	19	0.71	Strongly Aligned
3	Reading for Literature	14	0.71	Strongly Aligned

**Table 11. Balance of Knowledge, ELA Grade 3, Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
3	Language	10	0.67	Moderately Aligned
3	Reading for Informational	17	0.64	Moderately Aligned
3	Reading for Literature	13	0.71	Strongly Aligned

**Table 12. Balance of Knowledge, ELA Grade 3, Form P**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
3	Language	8	0.67	Moderately Aligned
3	Reading for Informational	18	0.82	Strongly Aligned
3	Reading for Literature	13	0.73	Strongly Aligned

## ELA Grade 4 Form Level Analysis

**Table 13. Categorical Concurrence, ELA Grade 4, Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
4	Language	8	13-15%	20.00%	Moderately Aligned
4	Reading for Informational	18	46-50%	45.00%	Strongly Aligned
4	Reading for Literature	14	32-42%	35.00%	Strongly Aligned

**Table 14. Categorical Concurrence, ELA Grade 4, Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
4	Language	6	13-15%	15.00%	Strongly Aligned
4	Reading for Informational	18	46-50%	45.00%	Strongly Aligned
4	Reading for Literature	16	32-42%	40.00%	Strongly Aligned

**Table 15. Depth of Knowledge, ELA Grade 4, Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
4	Language	8	2-2	100.00%	Strongly Aligned
4	Reading for Informational	18	2-3	77.78%	Strongly Aligned
4	Reading for Literature	14	2-3	92.86%	Strongly Aligned

**Table 16. Depth of Knowledge, ELA Grade 4, Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
4	Language	6	2-2	100.00%	Strongly Aligned
4	Reading for Informational	18	2-3	66.67%	Strongly Aligned
4	Reading for Literature	16	2-3	93.75%	Strongly Aligned

**Table 17. Range of Knowledge, ELA Grade 4, Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
4	Language	3	66.67%	Strongly Aligned
4	Reading for Informational	6	100.00%	Strongly Aligned
4	Reading for Literature	4	50.00%	Strongly Aligned

**Table 18. Range of Knowledge, ELA Grade 4, Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
4	Language	3	66.67%	Strongly Aligned
4	Reading for Informational	6	83.33%	Strongly Aligned
4	Reading for Literature	4	100.00%	Strongly Aligned

**Table 19. Balance of Knowledge, ELA Grade 4, Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
4	Language	8	0.46	Not Aligned
4	Reading for Informational	18	0.67	Moderately Aligned
4	Reading for Literature	14	0.5	Weakly Aligned



**Table 20. Balance of Knowledge, ELA Grade 4, Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
4	Language	6	0.67	Moderately Aligned
4	Reading for Informational	18	0.78	Strongly Aligned
4	Reading for Literature	16	0.75	Strongly Aligned

## ELA Grade 5 Form Level Analysis

**Table 21. Categorical Concurrence, ELA Grade 5 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
5	Language	7	13-15%	18.42%	Strongly Aligned
5	Reading for Informational	16	46-50%	42.11%	Strongly Aligned
5	Reading for Literature	15	32-42%	39.47%	Strongly Aligned

**Table 22. Categorical Concurrence, ELA Grade 5, Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
5	Language	7	13-15%	17.50%	Strongly Aligned
5	Reading for Informational	18	46-50%	45.00%	Strongly Aligned
5	Reading for Literature	15	32-42%	37.50%	Strongly Aligned

**Table 23. Categorical Concurrence, ELA Grade 5, Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
5	Language	5	13-15%	13.51%	Strongly Aligned
5	Reading for Informational	17	46-50%	45.95%	Strongly Aligned
5	Reading for Literature	15	32-42%	40.54%	Strongly Aligned

**Table 24. Depth of Knowledge, ELA Grade 5, Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
5	Language	7	2-2	100.00%	Strongly Aligned
5	Reading for Informational	16	2-3	62.50%	Strongly Aligned
5	Reading for Literature	15	2-3	73.33%	Strongly Aligned

**Table 25. Depth of Knowledge, ELA Grade 5, Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
5	Language	7	2-2	100.00%	Strongly Aligned
5	Reading for Informational	18	2-3	66.67%	Strongly Aligned
5	Reading for Literature	15	2-3	100.00%	Strongly Aligned

**Table 26. Depth of Knowledge, ELA Grade 5, Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
5	Language	5	2-2	100.00%	Strongly Aligned
5	Reading for Informational	17	2-3	58.82%	Strongly Aligned
5	Reading for Literature	15	2-3	80.00%	Strongly Aligned

**Table 27. Range of Knowledge, ELA Grade 5, Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
5	Language	3	66.67%	Strongly Aligned
5	Reading for Informational	5	100.00%	Strongly Aligned
5	Reading for Literature	5	100.00%	Strongly Aligned

**Table 28. Range of Knowledge, ELA Grade 5, Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
5	Language	3	66.67%	Strongly Aligned
5	Reading for Informational	5	80.00%	Strongly Aligned
5	Reading for Literature	5	100.00%	Strongly Aligned

**Table 29. Range of Knowledge, ELA Grade 5, Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
5	Language	3	33.33%	Weakly Aligned
5	Reading for Informational	5	80.00%	Strongly Aligned
5	Reading for Literature	5	80.00%	Strongly Aligned

**Table 30. Balance of Knowledge, ELA Grade 5, Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
5	Language	7	0.62	Moderately Aligned
5	Reading for Informational	16	0.90	Strongly Aligned
5	Reading for Literature	15	0.67	Moderately Aligned

**Table 31. Balance of Knowledge, ELA Grade 5, Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
5	Language	7	0.62	Moderately Aligned
5	Reading for Informational	18	0.68	Moderately Aligned
5	Reading for Literature	15	0.87	Strongly Aligned

**Table 32. Balance of Knowledge, ELA Grade 5, Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
5	Language	5	0.33	Not Aligned
5	Reading for Informational	17	0.78	Strongly Aligned
5	Reading for Literature	15	0.67	Moderately Aligned

## ELA Grade 6 Form Level Analysis

**Table 33. Categorical Concurrence, ELA Grade 6 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
6	Language	5	11-16%	11.63%	Strongly Aligned
6	Reading for Informational	21	43-47%	48.84%	Strongly Aligned
6	Reading for Literature	17	36-41%	39.53%	Strongly Aligned

**Table 34. Categorical Concurrence, ELA Grade 6, Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
6	Language	8	11-16%	18.18%	Strongly Aligned
6	Reading for Informational	19	43-47%	43.18%	Strongly Aligned
6	Reading for Literature	17	36-41%	38.64%	Strongly Aligned

**Table 35. Categorical Concurrence, ELA Grade 6, Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
6	Language	7	11-16%	15.91%	Strongly Aligned
6	Reading for Informational	19	43-47%	43.18%	Strongly Aligned
6	Reading for Literature	18	36-41%	40.91%	Strongly Aligned

**Table 36. Depth of Knowledge, ELA Grade 6, Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
6	Language	5	2-2	100.00%	Strongly Aligned
6	Reading for Informational	21	2-3	85.71%	Strongly Aligned
6	Reading for Literature	17	2-3	94.12%	Strongly Aligned

**Table 37. Depth of Knowledge, ELA Grade 6, Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
6	Language	8	2-2	100.00%	Strongly Aligned
6	Reading for Informational	19	2-3	84.21%	Strongly Aligned
6	Reading for Literature	17	2-3	100.00%	Strongly Aligned

**Table 38. Depth of Knowledge, ELA Grade 6, Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
6	Language	7	2-2	100.00%	Strongly Aligned
6	Reading for Informational	19	2-3	89.47%	Strongly Aligned
6	Reading for Literature	18	2-3	100.00%	Strongly Aligned

**Table 39. Range of Knowledge, ELA Grade 6, Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
6	Language	3	66.67%	Strongly Aligned
6	Reading for Informational	7	100.00%	Strongly Aligned
6	Reading for Literature	6	100.00%	Strongly Aligned

**Table 40. Range of Knowledge, ELA Grade 6, Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
6	Language	3	66.67%	Strongly Aligned
6	Reading for Informational	7	85.71%	Strongly Aligned
6	Reading for Literature	6	100.00%	Strongly Aligned

**Table 41. Range of Knowledge, ELA Grade 6, Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
6	Language	3	66.67%	Strongly Aligned
6	Reading for Informational	7	100.00%	Strongly Aligned
6	Reading for Literature	6	100.00%	Strongly Aligned

**Table 42. Balance of Knowledge, ELA Grade 6, Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
6	Language	5	0.53	Weakly Aligned
6	Reading for Informational	21	0.81	Strongly Aligned
6	Reading for Literature	17	0.79	Strongly Aligned

**Table 43. Balance of Knowledge, ELA Grade 6, Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
6	Language	8	0.67	Moderately Aligned
6	Reading for Informational	19	0.59	Weakly Aligned
6	Reading for Literature	17	0.84	Strongly Aligned

**Table 44. Balance of Knowledge, ELA Grade 6, Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
6	Language	7	0.62	Moderately Aligned
6	Reading for Informational	19	0.83	Strongly Aligned
6	Reading for Literature	18	0.89	Strongly Aligned

## ELA Grade 7 Form Level Analysis

**Table 45. Categorical Concurrence, ELA Grade 7, Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
7	Language	6	11-16%	13.64%	Strongly Aligned
7	Reading for Informational	21	43-47%	47.73%	Strongly Aligned
7	Reading for Literature	17	36-41%	38.64%	Strongly Aligned

**Table 46. Categorical Concurrence, ELA Grade 7, Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
7	Language	7	11-16%	15.91%	Strongly Aligned
7	Reading for Informational	20	43-47%	45.45%	Strongly Aligned
7	Reading for Literature	17	36-41%	38.64%	Strongly Aligned

**Table 47. Depth of Knowledge, ELA Grade 7, Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
7	Language	6	2-2	100.00%	Strongly Aligned
7	Reading for Informational	21	2-3	90.48%	Strongly Aligned
7	Reading for Literature	17	2-3	94.12%	Strongly Aligned

**Table 48. Depth of Knowledge, ELA Grade 7, Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
7	Language	7	2-2	100.00%	Strongly Aligned
7	Reading for Informational	20	2-3	95.00%	Strongly Aligned
7	Reading for Literature	17	2-3	88.24%	Strongly Aligned

**Table 49. Range of Knowledge, ELA Grade 7, Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
7	Language	3	66.67%	Strongly Aligned
7	Reading for Informational	7	100.00%	Strongly Aligned
7	Reading for Literature	6	83.33%	Strongly Aligned

**Table 50. Range of Knowledge, ELA Grade 7, Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
7	Language	3	66.67%	Strongly Aligned
7	Reading for Informational	7	100.00%	Strongly Aligned
7	Reading for Literature	6	100.00%	Strongly Aligned

**Table 51. Balance of Knowledge, ELA Grade 7, Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
7	Language	6	0.50	Weakly Aligned
7	Reading for Informational	21	0.90	Strongly Aligned
7	Reading for Literature	17	0.73	Strongly Aligned

**Table 52. Balance of Knowledge, ELA Grade 7, Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
7	Language	7	0.62	Moderately Aligned
7	Reading for Informational	20	0.91	Strongly Aligned
7	Reading for Literature	17	0.74	Strongly Aligned

## ELA Grade 8 Form Level Analysis

**Table 53. Categorical Concurrence, ELA Grade 8, Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
8	Language	8	11-16%	18.18%	Strongly Aligned
8	Reading for Informational	21	43-47%	47.73%	Strongly Aligned
8	Reading for Literature	15	36-41%	34.09%	Strongly Aligned

**Table 54. Categorical Concurrence, ELA Grade 8, Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
8	Language	5	11-16%	11.36%	Strongly Aligned
8	Reading for Informational	21	43-47%	47.73%	Strongly Aligned
8	Reading for Literature	18	36-41%	40.91%	Strongly Aligned

**Table 55. Depth of Knowledge, ELA Grade 8, Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
8	Language	8	2-2	100.00%	Strongly Aligned
8	Reading for Informational	21	2-3	71.43%	Strongly Aligned
8	Reading for Literature	15	2-3	100.00%	Strongly Aligned



**Table 56. Depth of Knowledge, ELA Grade 8, Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
8	Language	5	2-2	100.00%	Strongly Aligned
8	Reading for Informational	21	2-3	85.71%	Strongly Aligned
8	Reading for Literature	18	2-3	88.89%	Strongly Aligned

**Table 57. Range of Knowledge, ELA Grade 8, Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
8	Language	3	66.67%	Strongly Aligned
8	Reading for Informational	7	85.71%	Strongly Aligned
8	Reading for Literature	5	100.00%	Strongly Aligned

**Table 58. Range of Knowledge, ELA Grade 8, Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
8	Language	3	33.33%	Weakly Aligned
8	Reading for Informational	7	100.00%	Strongly Aligned
8	Reading for Literature	5	100.00%	Strongly Aligned

**Table 59. Balance of Knowledge, ELA Grade 8, Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
8	Language	8	0.46	Not Aligned
8	Reading for Informational	21	0.76	Strongly Aligned
8	Reading for Literature	15	0.87	Strongly Aligned

**Table 60. Balance of Knowledge, ELA Grade 8, Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
8	Language	5	0.33	Not Aligned
8	Reading for Informational	21	0.81	Strongly Aligned
8	Reading for Literature	18	0.88	Strongly Aligned

## ELA HS Form Level Analysis

**Table 61. Categorical Concurrence, ELA HS Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
HS	Language	9	9-13%	17.65%	Strongly Aligned
HS	Reading for Informational	23	42-46%	45.10%	Strongly Aligned
HS	Reading for Literature	19	35-39%	37.25%	Strongly Aligned

**Table 62. Categorical Concurrence, ELA HS, Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
HS	Language	6	9-13%	11.76%	Strongly Aligned
HS	Reading for Informational	23	42-46%	45.10%	Strongly Aligned
HS	Reading for Literature	22	35-39%	43.14%	Strongly Aligned

**Table 63. Categorical Concurrence, ELA HS, Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
HS	Language	9	9-13%	17.65%	Strongly Aligned
HS	Reading for Informational	25	42-46%	49.02%	Strongly Aligned
HS	Reading for Literature	17	35-39%	33.33%	Strongly Aligned

**Table 64. Depth of Knowledge, ELA HS, Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
HS	Language	9	2-2	100.00%	Strongly Aligned
HS	Reading for Informational	23	2-3	82.61%	Strongly Aligned
HS	Reading for Literature	19	2-3	84.21%	Strongly Aligned

**Table 65. Depth of Knowledge, ELA HS, Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
HS	Language	6	2-2	100.00%	Strongly Aligned
HS	Reading for Informational	23	2-3	78.26%	Strongly Aligned
HS	Reading for Literature	22	2-3	81.82%	Strongly Aligned

**Table 66. Depth of Knowledge, ELA HS, Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
HS	Language	9	2-2	100.00%	Strongly Aligned
HS	Reading for Informational	25	2-3	88.00%	Strongly Aligned
HS	Reading for Literature	17	2-3	94.12%	Strongly Aligned

**Table 67. Range of Knowledge, ELA HS, Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
HS	Language	3	100.00%	Strongly Aligned
HS	Reading for Informational	7	71.43%	Strongly Aligned
HS	Reading for Literature	6	100.00%	Strongly Aligned

**Table 68. Range of Knowledge, ELA HS, Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
HS	Language	3	66.67%	Strongly Aligned
HS	Reading for Informational	7	100.00%	Strongly Aligned
HS	Reading for Literature	6	100.00%	Strongly Aligned

**Table 69. Range of Knowledge, ELA HS, Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
HS	Language	3	66.67%	Strongly Aligned
HS	Reading for Informational	7	71.43%	Strongly Aligned
HS	Reading for Literature	6	100.00%	Strongly Aligned

**Table 70. Balance of Knowledge, ELA HS, Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
HS	Language	9	0.78	Strongly Aligned
HS	Reading for Informational	23	0.60	Moderately Aligned
HS	Reading for Literature	19	0.82	Strongly Aligned

**Table 71. Balance of Knowledge, ELA HS, Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
HS	Language	6	0.67	Moderately Aligned
HS	Reading for Informational	23	0.86	Strongly Aligned
HS	Reading for Literature	22	0.80	Strongly Aligned

**Table 72. Balance of Knowledge, ELA HS, Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
HS	Language	9	0.56	Weakly Aligned
HS	Reading for Informational	25	0.67	Moderately Aligned
HS	Reading for Literature	17	0.74	Strongly Aligned

## Math Grade 3 Form Level Analysis

**Table 73. Categorical Concurrence, Math Grade 3 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
3	Measurement and Data, Geometry	10	23-27%	26.32%	Strongly Aligned
3	Number and Operations in Base Ten	6	9-13%	15.79%	Strongly Aligned
3	Number and Operations – Fractions	11	28-32%	28.95%	Strongly Aligned
3	Operations and Algebraic Thinking	11	32-36%	28.95%	Strongly Aligned

**Table 74. Categorical Concurrence, Math Grade 3 Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
3	Measurement and Data, Geometry	9	23-27%	23.68%	Strongly Aligned
3	Number and Operations in Base Ten	3	9-13%	7.89%	Strongly Aligned
3	Number and Operations – Fractions	11	28-32%	28.95%	Strongly Aligned
3	Operations and Algebraic Thinking	15	32-36%	39.47%	Strongly Aligned

**Table 75. Categorical Concurrence, Math Grade 3 Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
3	Measurement and Data, Geometry	9	23-27%	25.00%	Strongly Aligned
3	Number and Operations in Base Ten	5	9-13%	13.89%	Strongly Aligned
3	Number and Operations – Fractions	10	28-32%	27.78%	Strongly Aligned
3	Operations and Algebraic Thinking	12	32-36%	33.33%	Strongly Aligned

**Table 76. Depth of Knowledge, Math Grade 3 Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Measurement and Data, Geometry	10	1-2	60.00%	Strongly Aligned
3	Number and Operations in Base Ten	6	2-2	100.00%	Strongly Aligned
3	Number and Operations – Fractions	11	2-2	72.73%	Strongly Aligned
3	Operations and Algebraic Thinking	11	2-2	81.82%	Strongly Aligned

**Table 77. Depth of Knowledge, Math Grade 3 Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Measurement and Data, Geometry	9	1-2	100.00%	Strongly Aligned
3	Number and Operations in Base Ten	3	2-2	100.00%	Strongly Aligned
3	Number and Operations – Fractions	11	2-2	81.82%	Strongly Aligned
3	Operations and Algebraic Thinking	15	2-2	93.33%	Strongly Aligned

**Table 78. Depth of Knowledge, Math Grade 3 Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
3	Measurement and Data, Geometry	9	1-2	77.78%	Strongly Aligned
3	Number and Operations in Base Ten	5	2-2	100.00%	Strongly Aligned
3	Number and Operations – Fractions	10	2-2	90.00%	Strongly Aligned
3	Operations and Algebraic Thinking	12	2-2	75.00%	Strongly Aligned

**Table 79. Range of Knowledge, Math Grade 3 Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
3	Measurement and Data, Geometry	7	71.43%	Strongly Aligned
3	Number and Operations in Base Ten	2	100.00%	Strongly Aligned
3	Number and Operations – Fractions	4	100.00%	Strongly Aligned
3	Operations and Algebraic Thinking	6	83.33%	Strongly Aligned

**Table 80. Range of Knowledge, Math Grade 3 Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
3	Measurement and Data, Geometry	7	57.14%	Strongly Aligned
3	Number and Operations in Base Ten	2	100.00%	Strongly Aligned
3	Number and Operations – Fractions	4	100.00%	Strongly Aligned
3	Operations and Algebraic Thinking	6	83.33%	Strongly Aligned

**Table 81. Range of Knowledge, Math Grade 3 Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
3	Measurement and Data, Geometry	7	85.71%	Strongly Aligned
3	Number and Operations in Base Ten	2	100.00%	Strongly Aligned
3	Number and Operations – Fractions	4	75.00%	Strongly Aligned
3	Operations and Algebraic Thinking	6	83.33%	Strongly Aligned

**Table 82. Balance of Knowledge, Math Grade 3 Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
3	Measurement and Data, Geometry	10	0.67	Moderately Aligned
3	Number and Operations in Base Ten	6	0.83	Strongly Aligned
3	Number and Operations – Fractions	11	0.70	Strongly Aligned
3	Operations and Algebraic Thinking	11	0.68	Moderately Aligned

**Table 83. Balance of Knowledge, Math Grade 3 Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
3	Measurement and Data, Geometry	9	0.57	Weakly Aligned
3	Number and Operations in Base Ten	3	0.83	Strongly Aligned
3	Number and Operations – Fractions	11	0.61	Moderately Aligned
3	Operations and Algebraic Thinking	15	0.60	Moderately Aligned



**Table 84. Balance of Knowledge, Math Grade 3 Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
3	Measurement and Data, Geometry	9	0.73	Strongly Aligned
3	Number and Operations in Base Ten	5	0.90	Strongly Aligned
3	Number and Operations – Fractions	10	0.70	Strongly Aligned
3	Operations and Algebraic Thinking	12	0.58	Weakly Aligned

## Math Grade 4 Form Level Analysis

**Table 85. Categorical Concurrence, Math Grade 4 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
4	Measurement and Data, Geometry	9	23-27%	22.50%	Strongly Aligned
4	Number and Operations in Base Ten	12	25-29%	30.00%	Strongly Aligned
4	Number and Operations – Fractions	13	30-34%	32.50%	Strongly Aligned
4	Operations and Algebraic Thinking	6	14-18%	15.00%	Strongly Aligned

**Table 86. Categorical Concurrence, Math Grade 4 Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
4	Measurement and Data, Geometry	10	23-27%	25.00%	Strongly Aligned
4	Number and Operations in Base Ten	12	25-29%	30.00%	Strongly Aligned
4	Number and Operations – Fractions	13	30-34%	32.50%	Strongly Aligned
4	Operations and Algebraic Thinking	5	14-18%	12.50%	Strongly Aligned

**Table 87. Categorical Concurrence, Math Grade 4 Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
4	Measurement and Data, Geometry	10	23-27%	25.00%	Strongly Aligned
4	Number and Operations in Base Ten	11	25-29%	27.50%	Strongly Aligned
4	Number and Operations – Fractions	13	30-34%	32.50%	Strongly Aligned
4	Operations and Algebraic Thinking	6	14-18%	15.00%	Strongly Aligned

**Table 88. Depth of Knowledge, Math Grade 4 Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
4	Measurement and Data, Geometry	9	1-2	88.89%	Strongly Aligned
4	Number and Operations in Base Ten	12	1-2	100.00%	Strongly Aligned
4	Number and Operations – Fractions	13	2-3	76.92%	Strongly Aligned
4	Operations and Algebraic Thinking	6	1-2	100.00%	Strongly Aligned

**Table 89. Depth of Knowledge, Math Grade 4 Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
4	Measurement and Data, Geometry	10	1-2	90.00%	Strongly Aligned
4	Number and Operations in Base Ten	12	1-2	83.33%	Strongly Aligned
4	Number and Operations – Fractions	13	2-3	53.85%	Strongly Aligned
4	Operations and Algebraic Thinking	5	1-2	100.00%	Strongly Aligned

**Table 90. Depth of Knowledge, Math Grade 4 Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
4	Measurement and Data, Geometry	10	1-2	80.00%	Strongly Aligned
4	Number and Operations in Base Ten	11	1-2	90.91%	Strongly Aligned
4	Number and Operations – Fractions	13	2-3	69.23%	Strongly Aligned
4	Operations and Algebraic Thinking	6	1-2	83.33%	Strongly Aligned

**Table 91. Range of Knowledge, Math Grade 4 Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
4	Measurement and Data, Geometry	9	77.78%	Strongly Aligned
4	Number and Operations in Base Ten	5	80.00%	Strongly Aligned
4	Number and Operations – Fractions	6	100.00%	Strongly Aligned
4	Operations and Algebraic Thinking	4	75.00%	Strongly Aligned

**Table 92. Range of Knowledge, Math Grade 4 Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
4	Measurement and Data, Geometry	9	66.67%	Strongly Aligned
4	Number and Operations in Base Ten	5	100.00%	Strongly Aligned
4	Number and Operations – Fractions	6	100.00%	Strongly Aligned
4	Operations and Algebraic Thinking	4	75.00%	Strongly Aligned

**Table 93. Range of Knowledge, Math Grade 4 Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
4	Measurement and Data, Geometry	9	88.89%	Strongly Aligned
4	Number and Operations in Base Ten	5	100.00%	Strongly Aligned
4	Number and Operations – Fractions	6	100.00%	Strongly Aligned
4	Operations and Algebraic Thinking	4	75.00%	Strongly Aligned

**Table 94. Balance of Knowledge, Math Grade 4 Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
4	Measurement and Data, Geometry	9	0.78	Strongly Aligned
4	Number and Operations in Base Ten	12	0.68	Moderately Aligned
4	Number and Operations – Fractions	13	0.87	Strongly Aligned
4	Operations and Algebraic Thinking	6	0.67	Moderately Aligned

**Table 95. Balance of Knowledge, Math Grade 4 Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
4	Measurement and Data, Geometry	10	0.63	Moderately Aligned
4	Number and Operations in Base Ten	12	0.65	Moderately Aligned
4	Number and Operations – Fractions	13	0.79	Strongly Aligned
4	Operations and Algebraic Thinking	5	0.65	Moderately Aligned

**Table 96. Balance of Knowledge, Math Grade 4 Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
4	Measurement and Data, Geometry	10	0.82	Strongly Aligned
4	Number and Operations in Base Ten	11	0.75	Strongly Aligned
4	Number and Operations – Fractions	13	0.79	Strongly Aligned
4	Operations and Algebraic Thinking	6	0.67	Moderately Aligned

## Math Grade 5 Form Level Analysis

**Table 97. Categorical Concurrence, Math Grade 5 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
5	Measurement and Data, Geometry	7	19-23%	18.42%	Strongly Aligned
5	Number and Operations in Base Ten	11	25-29%	28.95%	Strongly Aligned
5	Number and Operations – Fractions	15	39-43%	39.47%	Strongly Aligned
5	Operations and Algebraic Thinking	5	9-13%	13.16%	Strongly Aligned

**Table 98. Categorical Concurrence, Math Grade 5 Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
5	Measurement and Data, Geometry	8	19-23%	20.51%	Strongly Aligned
5	Number and Operations in Base Ten	11	25-29%	28.21%	Strongly Aligned
5	Number and Operations – Fractions	15	39-43%	38.46%	Strongly Aligned
5	Operations and Algebraic Thinking	5	9-13%	12.82%	Strongly Aligned

**Table 99. Categorical Concurrence, Math Grade 5 Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
5	Measurement and Data, Geometry	8	19-23%	21.05%	Strongly Aligned
5	Number and Operations in Base Ten	12	25-29%	31.58%	Strongly Aligned
5	Number and Operations – Fractions	15	39-43%	39.47%	Strongly Aligned
5	Operations and Algebraic Thinking	3	9-13%	7.89%	Strongly Aligned

**Table 100. Depth of Knowledge, Math Grade 5 Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
5	Measurement and Data, Geometry	7	1-3	57.14%	Strongly Aligned
5	Number and Operations in Base Ten	11	1-2	72.73%	Strongly Aligned
5	Number and Operations – Fractions	15	1-2	100.00%	Strongly Aligned
5	Operations and Algebraic Thinking	5	2-2	100.00%	Strongly Aligned

**Table 101. Depth of Knowledge, Math Grade 5 Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
5	Measurement and Data, Geometry	8	1-3	62.50%	Strongly Aligned
5	Number and Operations in Base Ten	11	1-2	100.00%	Strongly Aligned
5	Number and Operations – Fractions	15	1-2	100.00%	Strongly Aligned
5	Operations and Algebraic Thinking	5	2-2	100.00%	Strongly Aligned

**Table 102. Depth of Knowledge, Math Grade 5 Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
5	Measurement and Data, Geometry	8	1-3	75.00%	Strongly Aligned
5	Number and Operations in Base Ten	12	1-2	91.67%	Strongly Aligned
5	Number and Operations – Fractions	15	1-2	100.00%	Strongly Aligned
5	Operations and Algebraic Thinking	3	2-2	100.00%	Strongly Aligned

**Table 103. Range of Knowledge, Math Grade 5 Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
5	Measurement and Data, Geometry	5	100.00%	Strongly Aligned
5	Number and Operations in Base Ten	4	100.00%	Strongly Aligned
5	Number and Operations – Fractions	4	100.00%	Strongly Aligned
5	Operations and Algebraic Thinking	2	100.00%	Strongly Aligned

**Table 104. Range of Knowledge, Math Grade 5 Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
5	Measurement and Data, Geometry	5	80.00%	Strongly Aligned
5	Number and Operations in Base Ten	4	100.00%	Strongly Aligned
5	Number and Operations – Fractions	4	100.00%	Strongly Aligned
5	Operations and Algebraic Thinking	2	100.00%	Strongly Aligned

**Table 105. Range of Knowledge, Math Grade 5 Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
5	Measurement and Data, Geometry	5	100.00%	Strongly Aligned
5	Number and Operations in Base Ten	4	100.00%	Strongly Aligned
5	Number and Operations – Fractions	4	100.00%	Strongly Aligned
5	Operations and Algebraic Thinking	2	50.00%	Strongly Aligned

**Table 106. Balance of Knowledge, Math Grade 5 Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
5	Measurement and Data, Geometry	7	0.83	Strongly Aligned
5	Number and Operations in Base Ten	11	0.77	Strongly Aligned
5	Number and Operations – Fractions	15	0.83	Strongly Aligned
5	Operations and Algebraic Thinking	5	0.90	Strongly Aligned

**Table 107. Balance of Knowledge, Math Grade 5 Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
5	Measurement and Data, Geometry	8	0.80	Strongly Aligned
5	Number and Operations in Base Ten	11	0.80	Strongly Aligned
5	Number and Operations – Fractions	15	0.82	Strongly Aligned
5	Operations and Algebraic Thinking	5	0.90	Strongly Aligned

**Table 108. Balance of Knowledge, Math Grade 5 Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
5	Measurement and Data, Geometry	8	0.85	Strongly Aligned
5	Number and Operations in Base Ten	12	0.83	Strongly Aligned
5	Number and Operations – Fractions	15	0.83	Strongly Aligned
5	Operations and Algebraic Thinking	3	0.50	Weakly Aligned



## Math Grade 6 Form Level Analysis

**Table 109. Categorical Concurrence, Math Grade 6 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
6	Expressions and Equations	11	22-26%	24.44%	Strongly Aligned
6	Geometry	5	12-16%	11.11%	Strongly Aligned
6	Ratios and Proportional Relationships	14	24-28%	31.11%	Strongly Aligned
6	Statistics and Probability	6	12-16%	13.33%	Strongly Aligned
6	The Number System	9	20-24%	20.00%	Strongly Aligned

**Table 110. Categorical Concurrence, Math Grade 6 Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
6	Expressions and Equations	11	22-26%	25.00%	Strongly Aligned
6	Geometry	6	12-16%	13.64%	Strongly Aligned
6	Ratios and Proportional Relationships	14	24-28%	31.82%	Strongly Aligned
6	Statistics and Probability	6	12-16%	13.64%	Strongly Aligned
6	The Number System	7	20-24%	15.91%	Strongly Aligned

**Table 111. Categorical Concurrence, Math Grade 6 Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
6	Expressions and Equations	11	22-26%	24.44%	Strongly Aligned
6	Geometry	5	12-16%	11.11%	Strongly Aligned
6	Ratios and Proportional Relationships	12	24-28%	26.67%	Strongly Aligned
6	Statistics and Probability	6	12-16%	13.33%	Strongly Aligned
6	The Number System	11	20-24%	24.44%	Strongly Aligned

**Table 112. Depth of Knowledge, Math Grade 6 Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
6	Expressions and Equations	11	1-3	90.91%	Strongly Aligned
6	Geometry	5	2-2	100.00%	Strongly Aligned
6	Ratios and Proportional Relationships	14	1-3	42.86%	Moderately Aligned
6	Statistics and Probability	6	1-3	100.00%	Strongly Aligned
6	The Number System	9	1-2	88.89%	Strongly Aligned

**Table 113. Depth of Knowledge, Math Grade 6 Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
6	Expressions and Equations	11	1-3	100.00%	Strongly Aligned
6	Geometry	6	2-2	100.00%	Strongly Aligned
6	Ratios and Proportional Relationships	14	1-3	50.00%	Strongly Aligned
6	Statistics and Probability	6	1-3	100.00%	Strongly Aligned
6	The Number System	7	1-2	71.43%	Strongly Aligned

**Table 114. Depth of Knowledge, Math Grade 6 Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
6	Expressions and Equations	11	1-3	90.91%	Strongly Aligned
6	Geometry	5	2-2	100.00%	Strongly Aligned
6	Ratios and Proportional Relationships	12	1-3	66.67%	Strongly Aligned
6	Statistics and Probability	6	1-3	100.00%	Strongly Aligned
6	The Number System	11	1-2	100.00%	Strongly Aligned

**Table 115. Range of Knowledge, Math Grade 6 Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
6	Expressions and Equations	8	75.00%	Strongly Aligned
6	Geometry	4	75.00%	Strongly Aligned
6	Ratios and Proportional Relationships	4	75.00%	Strongly Aligned
6	Statistics and Probability	5	40.00%	Moderately Aligned
6	The Number System	11	63.64%	Strongly Aligned

**Table 116. Range of Knowledge, Math Grade 6 Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
6	Expressions and Equations	8	75.00%	Strongly Aligned
6	Geometry	4	100.00%	Strongly Aligned
6	Ratios and Proportional Relationships	4	100.00%	Strongly Aligned
6	Statistics and Probability	5	40.00%	Moderately Aligned
6	The Number System	11	54.55%	Strongly Aligned

**Table 117. Range of Knowledge, Math Grade 6 Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
6	Expressions and Equations	8	75.00%	Strongly Aligned
6	Geometry	4	100.00%	Strongly Aligned
6	Ratios and Proportional Relationships	4	100.00%	Strongly Aligned
6	Statistics and Probability	5	60.00%	Strongly Aligned
6	The Number System	11	54.55%	Strongly Aligned

**Table 118. Balance of Knowledge, Math Grade 6 Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
6	Expressions and Equations	11	0.68	Moderately Aligned
6	Geometry	5	0.65	Moderately Aligned
6	Ratios and Proportional Relationships	14	0.61	Moderately Aligned
6	Statistics and Probability	6	0.40	Not Aligned
6	The Number System	9	0.64	Moderately Aligned

**Table 119. Balance of Knowledge, Math Grade 6 Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
6	Expressions and Equations	11	0.61	Moderately Aligned
6	Geometry	6	0.83	Strongly Aligned
6	Ratios and Proportional Relationships	14	0.64	Moderately Aligned
6	Statistics and Probability	6	0.37	Not Aligned
6	The Number System	7	0.55	Weakly Aligned

**Table 120. Balance of Knowledge, Math Grade 6 Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
6	Expressions and Equations	11	0.68	Moderately Aligned
6	Geometry	5	0.85	Strongly Aligned
6	Ratios and Proportional Relationships	12	0.67	Moderately Aligned
6	Statistics and Probability	6	0.57	Weakly Aligned
6	The Number System	11	0.55	Weakly Aligned

## Math Grade 7 Form Level Analysis

**Table 121. Categorical Concurrence, Math Grade 7 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
7	Expressions and Equations	6	20-24%	14.63%	Moderately Aligned
7	Geometry	7	16-20%	17.07%	Strongly Aligned
7	Ratios and Proportional Relationships	14	24-28%	34.15%	Moderately Aligned
7	Statistics and Probability	8	22-26%	19.51%	Strongly Aligned
7	The Number System	6	8-12%	14.63%	Strongly Aligned

**Table 122. Categorical Concurrence, Math Grade 7 Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
7	Expressions and Equations	8	20-24%	17.78%	Strongly Aligned
7	Geometry	9	16-20%	20.00%	Strongly Aligned
7	Ratios and Proportional Relationships	14	24-28%	31.11%	Strongly Aligned
7	Statistics and Probability	10	22-26%	22.22%	Strongly Aligned
7	The Number System	4	8-12%	8.89%	Strongly Aligned

**Table 123. Categorical Concurrence, Math Grade 7 Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
7	Expressions and Equations	6	20-24%	13.33%	Moderately Aligned
7	Geometry	7	16-20%	15.56%	Strongly Aligned
7	Ratios and Proportional Relationships	16	24-28%	35.56%	Moderately Aligned
7	Statistics and Probability	11	22-26%	24.44%	Strongly Aligned
7	The Number System	5	8-12%	11.11%	Strongly Aligned

**Table 124. Depth of Knowledge, Math Grade 7 Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
7	Expressions and Equations	6	2-2	83.33%	Strongly Aligned
7	Geometry	7	1-2	100.00%	Strongly Aligned
7	Ratios and Proportional Relationships	14	1-3	78.57%	Strongly Aligned
7	Statistics and Probability	8	1-4	100.00%	Strongly Aligned
7	The Number System	6	1-1	100.00%	Strongly Aligned

**Table 125. Depth of Knowledge, Math Grade 7 Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
7	Expressions and Equations	8	2-2	100.00%	Strongly Aligned
7	Geometry	9	1-2	100.00%	Strongly Aligned
7	Ratios and Proportional Relationships	14	1-3	92.86%	Strongly Aligned
7	Statistics and Probability	10	1-4	100.00%	Strongly Aligned
7	The Number System	4	1-1	100.00%	Strongly Aligned

**Table 126. Depth of Knowledge, Math Grade 7 Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
7	Expressions and Equations	6	2-2	100.00%	Strongly Aligned
7	Geometry	7	1-2	100.00%	Strongly Aligned
7	Ratios and Proportional Relationships	16	1-3	100.00%	Strongly Aligned
7	Statistics and Probability	11	1-4	90.91%	Strongly Aligned
7	The Number System	5	1-1	100.00%	Strongly Aligned

**Table 127. Range of Knowledge, Math Grade 7 Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
7	Expressions and Equations	4	75.00%	Strongly Aligned
7	Geometry	5	80.00%	Strongly Aligned
7	Ratios and Proportional Relationships	6	83.33%	Strongly Aligned
7	Statistics and Probability	12	50.00%	Strongly Aligned
7	The Number System	1	100.00%	Strongly Aligned

**Table 128. Range of Knowledge, Math Grade 7 Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
7	Expressions and Equations	4	75.00%	Strongly Aligned
7	Geometry	5	100.00%	Strongly Aligned
7	Ratios and Proportional Relationships	6	83.33%	Strongly Aligned
7	Statistics and Probability	12	50.00%	Strongly Aligned
7	The Number System	1	100.00%	Strongly Aligned

**Table 129. Range of Knowledge, Math Grade 7 Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
7	Expressions and Equations	4	75.00%	Strongly Aligned
7	Geometry	5	80.00%	Strongly Aligned
7	Ratios and Proportional Relationships	6	66.67%	Strongly Aligned
7	Statistics and Probability	12	58.33%	Strongly Aligned
7	The Number System	1	100.00%	Strongly Aligned

**Table 130. Balance of Knowledge, Math Grade 7 Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
7	Expressions and Equations	6	0.67	Moderately Aligned
7	Geometry	7	0.74	Strongly Aligned
7	Ratios and Proportional Relationships	14	0.74	Strongly Aligned
7	Statistics and Probability	8	0.50	Weakly Aligned
7	The Number System	6	1.00	Strongly Aligned

**Table 131. Balance of Knowledge, Math Grade 7 Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
7	Expressions and Equations	8	0.75	Strongly Aligned
7	Geometry	9	0.73	Strongly Aligned
7	Ratios and Proportional Relationships	14	0.64	Moderately Aligned
7	Statistics and Probability	10	0.50	Weakly Aligned
7	The Number System	4	1.00	Strongly Aligned

**Table 132. Balance of Knowledge, Math Grade 7 Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
7	Expressions and Equations	6	0.67	Moderately Aligned
7	Geometry	7	0.69	Moderately Aligned
7	Ratios and Proportional Relationships	16	0.63	Moderately Aligned
7	Statistics and Probability	11	0.58	Weakly Aligned
7	The Number System	5	1.00	Strongly Aligned

## Math Grade 8 Form Level Analysis

**Table 133. Categorical Concurrence, Math Grade 8 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
8	Functions	16	28-32%	35.56%	Strongly Aligned
8	Geometry	13	24-28%	28.89%	Strongly Aligned
8	Statistics and Probability	5	16-20%	11.11%	Strongly Aligned
8	The Number System, Expressions and Equations	11	24-28%	24.44%	Strongly Aligned



**Table 134. Categorical Concurrence, Math Grade 8 Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
8	Functions	14	28-32%	31.82%	Strongly Aligned
8	Geometry	10	24-28%	22.73%	Strongly Aligned
8	Statistics and Probability	7	16-20%	15.91%	Strongly Aligned
8	The Number System, Expressions and Equations	13	24-28%	29.55%	Strongly Aligned

**Table 135. Categorical Concurrence, Math Grade 8 Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
8	Functions	14	28-32%	31.11%	Strongly Aligned
8	Geometry	13	24-28%	28.89%	Strongly Aligned
8	Statistics and Probability	6	16-20%	13.33%	Strongly Aligned
8	The Number System, Expressions and Equations	12	24-28%	26.67%	Strongly Aligned

**Table 136. Depth of Knowledge, Math Grade 8 Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
8	Functions	16	1-3	87.50%	Strongly Aligned
8	Geometry	13	2-2	100.00%	Strongly Aligned
8	Statistics and Probability	5	2-3	40.00%	Moderately Aligned
8	The Number System, Expressions and Equations	11	1-2	100.00%	Strongly Aligned

**Table 137. Depth of Knowledge, Math Grade 8 Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
8	Functions	14	1-3	92.86%	Strongly Aligned
8	Geometry	10	2-2	100.00%	Strongly Aligned
8	Statistics and Probability	7	2-3	57.14%	Strongly Aligned
8	The Number System, Expressions and Equations	13	1-2	100.00%	Strongly Aligned

**Table 138. Depth of Knowledge, Math Grade 8 Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
8	Functions	14	1-3	85.71%	Strongly Aligned
8	Geometry	13	2-2	100.00%	Strongly Aligned
8	Statistics and Probability	6	2-3	50.00%	Strongly Aligned
8	The Number System, Expressions and Equations	12	1-2	100.00%	Strongly Aligned

**Table 139. Range of Knowledge, Math Grade 8 Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
8	Functions	5	100.00%	Strongly Aligned
8	Geometry	5	100.00%	Strongly Aligned
8	Statistics and Probability	4	100.00%	Strongly Aligned
8	The Number System, Expressions and Equations	8	87.50%	Strongly Aligned

**Table 140. Range of Knowledge, Math Grade 8 Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
8	Functions	5	100.00%	Strongly Aligned
8	Geometry	5	80.00%	Strongly Aligned
8	Statistics and Probability	4	50.00%	Strongly Aligned
8	The Number System, Expressions and Equations	8	75.00%	Strongly Aligned

**Table 141. Range of Knowledge, Math Grade 8 Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
8	Functions	5	100.00%	Strongly Aligned
8	Geometry	5	100.00%	Strongly Aligned
8	Statistics and Probability	4	100.00%	Strongly Aligned
8	The Number System, Expressions and Equations	8	87.50%	Strongly Aligned

**Table 142. Balance of Knowledge, Math Grade 8 Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
8	Functions	16	0.78	Strongly Aligned
8	Geometry	13	0.86	Strongly Aligned
8	Statistics and Probability	5	0.85	Strongly Aligned
8	The Number System, Expressions and Equations	11	0.77	Strongly Aligned

**Table 143. Balance of Knowledge, Math Grade 8 Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
8	Functions	14	0.89	Strongly Aligned
8	Geometry	10	0.80	Strongly Aligned
8	Statistics and Probability	7	0.50	Weakly Aligned
8	The Number System, Expressions and Equations	13	0.65	Moderately Aligned

**Table 144. Balance of Knowledge, Math Grade 8 Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
8	Functions	14	0.81	Strongly Aligned
8	Geometry	13	0.83	Strongly Aligned
8	Statistics and Probability	6	0.83	Strongly Aligned
8	The Number System, Expressions and Equations	12	0.75	Strongly Aligned

## NC Math 1 Form Level Analysis

**Table 145. Categorical Concurrence, NC Math 1 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
M1	Functions	16	32-36%	32.65%	Strongly Aligned
M1	Geometry	5	8-12%	10.20%	Strongly Aligned
M1	Number and Quantity and Algebra	19	36-40%	38.78%	Strongly Aligned
M1	Statistics and Probability	9	18-20%	18.37%	Strongly Aligned

**Table 146. Categorical Concurrence, NC Math 1 Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
M1	Functions	17	32-36%	36.96%	Strongly Aligned
M1	Geometry	5	8-12%	10.87%	Strongly Aligned
M1	Number and Quantity and Algebra	17	36-40%	36.96%	Strongly Aligned
M1	Statistics and Probability	7	18-20%	15.22%	Strongly Aligned

**Table 147. Depth of Knowledge, NC Math 1 Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
M1	Functions	16	2-3	75.00%	Strongly Aligned
M1	Geometry	5	1-2	80.00%	Strongly Aligned
M1	Number and Quantity and Algebra	19	1-3	84.21%	Strongly Aligned
M1	Statistics and Probability	9	2-3	77.78%	Strongly Aligned

**Table 148. Depth of Knowledge, NC Math 1 Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
M1	Functions	17	2-3	82.35%	Strongly Aligned
M1	Geometry	5	1-2	100.00%	Strongly Aligned
M1	Number and Quantity and Algebra	17	1-3	82.35%	Strongly Aligned
M1	Statistics and Probability	7	2-3	42.86%	Moderately Aligned

**Table 149. Range of Knowledge, NC Math 1 Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
M1	Functions	15	66.67%	Strongly Aligned
M1	Geometry	3	100.00%	Strongly Aligned
M1	Number and Quantity and Algebra	17	64.71%	Strongly Aligned
M1	Statistics and Probability	7	85.71%	Strongly Aligned

**Table 150. Range of Knowledge, NC Math 1 Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
M1	Functions	15	66.67%	Strongly Aligned
M1	Geometry	3	100.00%	Strongly Aligned
M1	Number and Quantity and Algebra	17	64.71%	Strongly Aligned
M1	Statistics and Probability	7	42.86%	Moderately Aligned

**Table 151. Balance of Knowledge, NC Math 1 Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
M1	Functions	16	0.65	Moderately Aligned
M1	Geometry	5	0.87	Strongly Aligned
M1	Number and Quantity and Algebra	19	0.61	Moderately Aligned
M1	Statistics and Probability	9	0.76	Strongly Aligned

**Table 152. Balance of Knowledge, NC Math 1 Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
M1	Functions	17	0.62	Moderately Aligned
M1	Geometry	5	0.73	Strongly Aligned
M1	Number and Quantity and Algebra	17	0.65	Moderately Aligned
M1	Statistics and Probability	7	0.43	Not Aligned

## NC Math 3 Form Level Analysis

**Table 153. Categorical Concurrence, NC Math 3 Form M**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
M3	Functions	15	32-36%	30.00%	Strongly Aligned
M3	Geometry	13	20-24%	26.00%	Strongly Aligned
M3	Number and Quantity and Algebra	18	32-36%	36.00%	Strongly Aligned
M3	Statistics and Probability	4	8-12%	8.00%	Strongly Aligned

**Table 154. Categorical Concurrence, NC Math 3 Form N**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
M3	Functions	14	32-36%	28.00%	Strongly Aligned
M3	Geometry	10	20-24%	20.00%	Strongly Aligned
M3	Number and Quantity and Algebra	22	32-36%	44.00%	Moderately Aligned
M3	Statistics and Probability	4	8-12%	8.00%	Strongly Aligned

**Table 155. Categorical Concurrence, NC Math 3 Form O**

Grade	Domain	Number of Items	Expected Percentage	% Items Aligned to Domain	Alignment Evaluation
M3	Functions	16	32-36%	33.33%	Strongly Aligned
M3	Geometry	10	20-24%	20.83%	Strongly Aligned
M3	Number and Quantity and Algebra	18	32-36%	37.50%	Strongly Aligned
M3	Statistics and Probability	4	8-12%	8.33%	Strongly Aligned

**Table 156. Depth of Knowledge, NC Math 3 Form M**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
M3	Functions	15	2-3	80.00%	Strongly Aligned
M3	Geometry	13	2-2	100.00%	Strongly Aligned
M3	Number and Quantity and Algebra	18	1-3	94.44%	Strongly Aligned
M3	Statistics and Probability	4	2-3	75.00%	Strongly Aligned

**Table 157. Depth of Knowledge, NC Math 3 Form N**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
M3	Functions	14	2-3	78.57%	Strongly Aligned
M3	Geometry	10	2-2	100.00%	Strongly Aligned
M3	Number and Quantity and Algebra	22	1-3	86.36%	Strongly Aligned
M3	Statistics and Probability	4	2-3	75.00%	Strongly Aligned

**Table 158. Depth of Knowledge, NC Math 3 Form O**

Grade	Domain	Number of Items	Range of DOK	% Items Aligned at or above the Standard's Target DOK	Alignment Evaluation
M3	Functions	16	2-3	87.50%	Strongly Aligned
M3	Geometry	10	2-2	90.00%	Strongly Aligned
M3	Number and Quantity and Algebra	18	1-3	88.89%	Strongly Aligned
M3	Statistics and Probability	4	2-3	50.00%	Strongly Aligned

**Table 159. Range of Knowledge, NC Math 3 Form M**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
M3	Functions	16	43.75%	Moderately Aligned
M3	Geometry	8	62.50%	Strongly Aligned
M3	Number and Quantity and Algebra	16	62.50%	Strongly Aligned
M3	Statistics and Probability	4	75.00%	Strongly Aligned

**Table 160. Range of Knowledge, NC Math 3 Form N**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
M3	Functions	16	37.50%	Weakly Aligned
M3	Geometry	8	100.00%	Strongly Aligned
M3	Number and Quantity and Algebra	16	75.00%	Strongly Aligned
M3	Statistics and Probability	4	75.00%	Strongly Aligned

**Table 161. Range of Knowledge, NC Math 3 Form O**

Grade	Domain	Number of Standards	% Standards Represented by One or More Item	Alignment Evaluation
M3	Functions	16	50.00%	Strongly Aligned
M3	Geometry	8	87.50%	Strongly Aligned
M3	Number and Quantity and Algebra	16	68.75%	Strongly Aligned
M3	Statistics and Probability	4	100.00%	Strongly Aligned

**Table 162. Balance of Knowledge, NC Math 3 Form M**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
M3	Functions	15	0.44	Not Aligned
M3	Geometry	13	0.58	Weakly Aligned
M3	Number and Quantity and Algebra	18	0.59	Weakly Aligned
M3	Statistics and Probability	4	0.75	Strongly Aligned

**Table 163. Balance of Knowledge, NC Math 3 Form N**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
M3	Functions	14	0.38	Not Aligned
M3	Geometry	10	0.85	Strongly Aligned
M3	Number and Quantity and Algebra	22	0.65	Moderately Aligned
M3	Statistics and Probability	4	0.75	Strongly Aligned



**Table 164. Balance of Knowledge, NC Math 3 Form O**

Grade	Domain	Number of Items	BOR	Alignment Evaluation
M3	Functions	16	0.50	Weakly Aligned
M3	Geometry	10	0.78	Strongly Aligned
M3	Number and Quantity and Algebra	18	0.65	Moderately Aligned
M3	Statistics and Probability	4	1.00	Strongly Aligned