North Carolina *EXTEND2* Tests

Technical Report

Edition 1

***NCEXTEND2* End-of-Grade Reading Comprehension Tests**

***NCEXTEND2* End-of-Grade Mathematics Tests**

***NCEXTEND2* End-of-Course Occupational English I**

***NCEXTEND2* End-of-Course Occupational Mathematics I**

***NCEXTEND2* End-of-Course Life Skills Science I and II**

February 22, 2009

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Chapter One: Introduction

> *The General Assembly believes that all children can learn. It is the intent of the General Assembly that the mission of the public school community is to challenge with high expectations each child to learn, to achieve, and to fulfill his or her potential (G.S. 115C-105.20a).*

With that mission as its guide, the State Board of Education implemented the ABCs Accountability Program at grades K–8 effective with the 1996–1997 school year and grades 9–12 effective during the 1997–1998 school year. The purpose of the assessments developed under the ABCs Accountability Program is to test students' mastery of basic skills (reading, writing, and mathematics). The ABCs Accountability Program was developed under the *Public School Laws* mandating local participation in the program, the design of annual performance standards, and the development of student academic performance standards.

1.1 Universal Participation

> *The School-Based Management and Accountability Program shall be based upon an accountability, recognition, assistance, and intervention process in order to hold each school and the school's personnel accountable for improved student performance in the school (G.S. 115C-105.21c).*

Schools are held accountable for student learning by public reporting of student performance results on North Carolina tests. Students' scores are compiled each year and released in a report card. Schools are then recognized for the performance of their students. Schools that consistently do not make adequate progress may receive intervention from the state.

In April 1999, the State Board of Education unanimously approved Statewide Student Accountability Standards. These standards provide four Gateway Standards for student performance at grades 3, 5, 8, and 11. Students in the 3rd, 5th, and 8th grades are required to demonstrate grade-level performance in reading, writing (5th and 8th grades only), and mathematics in order to be promoted to the next grade. The law regarding student academic performance states:

> *The State Board of Education shall develop a plan to create rigorous student academic performance standards for kindergarten through eighth grade and student academic standards for courses in grades 9–12. The performance standards shall align, whenever possible, with the student academic performance standards developed for the National Assessment of Educational Progress (NAEP). The plan also shall include clear and understandable methods of reporting individual student academic performance to parents (G.S. 115C-105.40).*

In 2001, the reauthorization of the Elementary and Secondary Education Act (ESEA) ushered in a new era of accountability at the Federal level as well. Popularly referred to as No Child Left Behind (NCLB), this law was designed to improve American education by ensuring that even the neediest students receive a sound basic education and that no child is trapped in a failing school. The cornerstones of NCLB include annual testing of all students in language and mathematics in grades 3 through 8; annual testing of all students in language and math once in high school; and annual testing of all students in science in each grade span 3–5, 6–9, and 10–12. These assessment results are to be broken out (disaggregated) by ethnicity, disability, poverty, and English proficiency. The end goal of NCLB is to have all students performing at a level deemed proficient by 2014. A major provision of the Act focuses on accountability for results.

> *H.R. 1 will result in the creation of assessments in each state that measure what children know and learn in reading and math in grades 3–8. Student progress and achievement will be measured according to tests that will be given to every child, every year. …*
> *Statewide reports will include performance data disaggregated according to race, gender, and other criteria to demonstrate not only how well students are achieving overall but also progress in closing the achievement gap between disadvantaged students and other groups of students.*
>
> From: Fact Sheet on the Major Provisions of the Conference Report to H.R. 1, the No Child Left Behind Act

1.2 The North Carolina Testing Program

The North Carolina Testing Program was designed to measure the extent to which students satisfy academic performance requirements. Tests developed by the North Carolina Department of Public Instruction's Test Development Section, when properly administered and interpreted, provide reliable and valid information that enables

- *students to know the extent to which they have mastered expected knowledge and skills and how they compare to others;*
- *parents to know if their children are acquiring the knowledge and skills needed to succeed in a highly competitive job market;*
- *teachers to know if their students have mastered grade-level knowledge and skills in the curriculum and, if not, what weaknesses need to be addressed;*
- *community leaders and lawmakers to know if students in North Carolina schools are improving their performance over time and how our students compare with students from other states or the nation; and*
- *citizens to assess the performance of the public schools* (North Carolina *Testing Code of Ethics*, 1997, revised 2000).

The North Carolina Testing Program was initiated in response to legislation passed by the North Carolina General Assembly. The following selection from *Public School Laws* (1994) describes the legislation. *Public School Law 115C-174.10* states the following purposes of the North Carolina Testing Program:

> *(i) to assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a member of society; (ii) to provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery; and (iii) to establish additional means for making the education system at the State, local, and school levels accountable to the public for results.*

Tests included in the North Carolina Testing Program are designed for use as federal, state, and local indicators of student performance. Interpretation of test scores in the North Carolina Testing Program provides information about a student's performance on the test in percentiles, scale scores, and achievement levels. Percentiles provide an indicator of how a child performs relative to other children who took the test in the norming year, or the first year the test was administered. Percentiles range from 1 to 99. A percentile rank of 65 indicates that a child performed equal to or better than 65 percent of the children who took the test during the norming year.

Scale scores are derived from a raw score or "number right" score for the test. Each test has a translation table that provides a scale score for each raw test score. Scale scores are reported alongside four achievement levels, which are predetermined academic achievement standards.

The North Carolina Testing Program, effective with the 2000–2001 school year, in the Reauthorization of Individuals with Disabilities Education Act (IDEA), was expanded to include a system of alternate assessments for students with disabilities.

Effective with the 2005–06 school year, the state implemented several changes in the North Carolina Testing Program as a result of changes in regulations and impeding decisions by the United States Department of Education (USED). The changes included:

1) "Out of level" assessments are no longer permitted for any students.

2) Students with significant cognitive disabilities are still permitted to be assessed using an alternate assessment with alternate academic achievement standards.

3) The North Carolina Checklist of Academic Standards (NCCLAS) was implemented as a grade-level alternate assessment for students with disabilities and students with limited English proficiency.

4) The ***NCEXTEND2*** Alternate Assessment for EOG in reading and mathematics grades 3–8 and writing grades 4 and 7 was implemented for eligible students with disabilities.

1.3 Participation in the North Carolina Testing Program

All eligible students are required to participate in the North Carolina statewide testing program.

Effective in the 2005–06 school year, the North Carolina Testing Program revised its system of alternate assessments.

There are three ways students may participate in the North Carolina statewide testing program:

- *Standard test administration*;
- *Standard test administration with accommodations*: On a case-by-case basis and where appropriate documentation exists, students identified as limited English proficient (LEP) and students with disabilities may receive testing accommodations. An approved list of accommodations that do not invalidate test results is provided to schools for each tested content area. The need for accommodations must be documented in the student's appropriate LEP documentation, current IEP, or Section 504 Plan. The accommodations must be used routinely during the student's instructional program and similar classroom assessments.
- *Alternate Assessments*: Eligible students who are limited English proficient or eligible students with disabilities who meet specific eligibility criteria can be assessed using alternate assessments.

1.4 The *NCEXTEND2* Alternate Assessment

The ***NCEXTEND2*** Alternate Assessment for EOG Reading and Mathematics Grade 3–8 is an alternate assessment for students with disabilities who are working toward grade-level achievement but are having continued difficulty in making progress in the same

time frame as students without disabilities. The assessment is a multiple--choice test with fewer items that utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** uses shorter reading selections, simplified language, and fewer test items and item responses (foils/answer choices) to assess students on grade-level content. ***NCEXTEND2*** provides access to the statewide testing through a test design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** Alternate Assessment for EOG Reading and Mathematics tests are administered to students whose IEP designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade reading and/or mathematics in grades 3–8.

This Technical Report for the first editions of ***NCEXTEND2*** Alternate Assessment for EOG Reading and Mathematics Grade 3–8 and ***NCEXTEND2*** Tests of Occupational English I, Occupational Mathematics I, Life Skills Science I and II discusses alternate assessments aligned with the North Carolina Mathematics 2003 *Standard Course of Study* (*SCS*) and Occupational Course of Study (OCS). ***NCEXTEND2*** End-of-Grade Tests for grades 3 through 8 were field tested in early Spring 2006 and administered operationally for the first time in late Spring 2006. The ***NCEXTEND2*** End-of-Course Tests in Occupational English I, Occupational Mathematics I, and Life Skills Science I and II were administered as field tests in School Year 2005–2006 and were administered operationally for the first time in School Year 2006–2007.

The purpose of this document is to provide an overview of and technical documentation for the North Carolina *EXTEND2* Tests, 1st Edition, which include the End-of-Grade (EOG) Mathematics Tests in grades 3 through 8, the End-of-Grade (EOG) Reading Comprehension Tests in grades 3–8, the End-of-Course (EOC) Occupational Mathematics Tests in Occupational Mathematics I, the End-of-Course (EOC) Occupational English Tests in Occupational English I, and the End-of-Course (EOC) Life Skills Science I and II. Chapter One provides an overview of the North Carolina *EXTEND2* Tests. Chapter Two describes the test development process. Chapter Three outlines the test administration. Chapter Four describes the scoring of the tests and the standard setting process. Chapter Five provides an outline of reporting of test results. Chapters Six and Seven provide the technical properties of the tests, such as descriptive statistics from the first operational year, reliability indices, and evidence of validity. Chapter Eight is an overview of quality control procedures.

Chapter Two: Test Development

2.1 Test Development Process for the North Carolina Testing Program

In June of 2003, the State Board of Education codified the process used in developing all multiple-choice tests in the North Carolina Testing Program. The development of tests for the North Carolina Testing Program follows a prescribed sequence of events. A flow chart of those events is found in Figure 1.

Figure 1: Flow Chart of the Test Development Process used in Development of North Carolina Tests

Curriculum Adoption	**Step 7** Review Item Tryout Statistics	**Step 14**[b] Conduct Bias Reviews
Step 1[a] Develop Test Specifications (Blueprint)	**Step 8**[b] Develop New Items	**Step 15** Assemble Equivalent and Parallel Forms
Step 2[b] Develop Test Items	**Step 9**[b] Review Items for Field Test	**Step 16**[b] Review Assembled Test
Step 3[b] Review Items for Tryouts	**Step 10** Assemble Field Test Forms	**Step 17** Final Review of Test
Step 4 Assemble Item Tryout Forms	**Step 11**[b] Review Field Test Forms	**Step 18**[ab] Administer Test as Pilot
Step 5[b] Review Item Tryout Forms	**Step 12**[b] Administer Field Test	**Step 19** Score Test
Step 6[b] Administer Item Tryouts	**Step 13** Review Field Test Statistics	**Step 20**[ab] Establish Standards
		Step 21[b] Administer Test as Fully Operational
		Step 22 Report Test Results

[a]Activities done only at implementation of new curriculum
[b]Activities involving NC teachers

Phase 1 (step 1) requires 4 months
Phase 2 (steps 2–7) requires 12 months
Phase 3 (steps 8–14) requires 20 months
Phase 4 (steps 15–20) requires 4 months for EOC and 9 months for EOG
Phase 5 (step 21) requires 4 months
Phase 6 (step 22) requires 1 month
TOTAL 44–49 months

NOTES: Whenever possible, item tryouts should precede field testing items. Professional development opportunities are integral and ongoing to the curriculum and test development process.

Because of the shortened test implication schedule, the test development process for the ***NCEXTEND2*** End-of-Grade tests was correspondingly compressed. In this case, many of the items were items used from the general End-of-Grades tests of Mathematics and Reading Comprehension and were modified to the item format used for ***NCEXTEND2***. For example, the foil deemed by content specialists to be the least plausible was removed and language was simplified when appropriate. These items had previously been through Steps 1 and 2 of the process delineated above, and in most cases, through Steps 1–14, but not used on an operational test form. The items may not have been previously used on an operational form due to lack of fit to the test specifications (i.e., too many items available in the item pool for a particular goal or objective) or target p-value of operational form. In some cases, the item had been deemed statistically "too easy," that is a p-value greater than .85, for the general test.

2.2 The Curriculum Connection

Testing of North Carolina students' skills relative to the competency goals and objectives in the *Standard Course of Study (SCS)* is one component of the North Carolina Testing Program. Students tested using the ***NCEXTEND2*** are tested in Reading Comprehension at the end of grades 3 through 8 and at the end of the Occupational Course of Study (OCS) Occupational English I course. In grades 3 through 8, English Language Arts concepts are measured in four cognitive constructs: cognition, interpretation, critical stance, and connections. The four categories are operationally defined below.

- Cognition

  Cognition is the initial stage of a reader's understanding a reading selection. It is focused on the purpose and organization of the selection. It considers the text as a whole or in broad perspective and includes strategies like using context clues to determine meaning or summarizing to include main points.

- Interpretation

  Interpretation requires the student to develop a more complete understanding. It may ask students to clarify, to explain the significance of, to extend, and/or to adapt ideas/concepts.

- Critical Stance

  Critical stance refers to tasks that ask a student to consider the selection objectively. It involves processes like comparing/contrasting and understanding the impact of literary elements.

- Connections

Connections refer to connecting knowledge obtained from reading the selection with other information and experiences. It involves the student being able to relate the selection to events outside of the selection. In addition, the student will make associations outside the selection and between selections.

In addition to measuring a particular category, each item on the ***NCEXTEND2*** End-of-Grade Reading Tests is aligned to an objective from the NC*SCS* for English Language Arts. While some objectives can be measured readily by multiple-choice questions and are assessed by the tests, other objectives address the skills and background knowledge that are needed to do well on the tests, but are not easily measured in a multiple-choice format. To facilitate an understanding of the link between the objectives in the NC*SCS* for English Language Arts—Grades 3–8 and the individual categories, each objective in grades 3–8 is listed below. Beside each objective, the categories are indicated as follows. An illustration of the link between the four categories around which test items are developed and the NC*SCS* is provided below in Tables 1–6.

Table 1: English Language Arts goals and objectives linked to the four categories for Grade 3

English Language Arts, Grade 3 **Objectives from Goals 1, 2, and 3**				
α The objective addresses skills or concepts related to a particular category and can be directly tested by a multiple-choice question. ☆ The objective addresses skills or concepts related to a particular category that students may apply when answering a multiple-choice question, but the objective is not directly tested on the competency test. (empty box) The objective addresses skills and concepts that are not directly related to the particular category and is not directly tested on the competency test.	Cognition	Interpretation	Critical Stance	Connections
Competency Goal 1: The learner will apply enabling strategies and skills to read and write.				
1.01 Apply phonics and structural analysis to decode words	☆			
1.02 Apply meanings of common prefixes and suffixes to decode words in text to assist comprehension.	α			
1.03 Integrate prior experiences and all sources of information in the text when reading orally and silently.	α	☆	☆	☆
1.04 Increase sight vocabulary, reading vocabulary, and writing vocabulary	☆			
1.05 Use word reference materials to confirm decoding skill, verify spelling, and extend meanings of words.	α			

1.06 Read independently daily from self-selected materials.	☆	☆	☆	☆
Competency Goal 2: The learner will apply strategies and skills to comprehend text that is read, heard, and viewed.				
2.01 Use metacognitive strategies to comprehend text.	α	☆	α	☆
2.02 Interact with the text before, during, and after reading, listening, or viewing by setting a purpose, previewing the text, making predictions, asking questions, locating information for specific purposes, making connections, and using story structure and text organization to comprehend.	α	α	☆	α
2.03 Read a variety of texts including fiction, nonfiction, poetry, and drama.	☆	☆	☆	☆
2.04 Identify and interpret elements of fiction and nonfiction and support by referencing the text to determine the author's purpose, plot, conflict, sequence, resolution, lesson and/or message, main idea and supporting details, cause and effect, fact and opinion, point of view, and author's use of figurative language.	α	α	α	
2.05 Draw conclusions, make generalizations, and gather support by referencing the text.		α	α	α
2.06 Summarize the main idea(s) from texts using succinct language.	α			
2.07 Explain choice of reading materials congruent with purposes.	☆		☆	
2.08 Listen actively by facing the speaker, making eye contact, and asking questions.	☆	☆	☆	☆
Competency Goal 3: The learner will make connections through the use of oral language, written language, and media and technology.				
3.01 Respond to fiction, nonfiction, poetry, and drama using interpretive, critical, and evaluative processes.	α	α	α	α
3.02 Identify and discuss similarities and differences in events and characters within and across selections and support them by referencing the text.			α	α
3.03 Use text and own experiences to verify facts, concepts, and ideas.	α	α	α	α
3.04 Make informed judgments about television productions.		☆	☆	
3.05 Compare and contrast printed and visual information (graphs, charts, maps).		☆	α	α
3.06 Conduct research for assigned and self-selected projects.	☆	☆	☆	☆

Table 2: English Language Arts goals and objectives linked to the four categories for Grade 4.

English Language Arts, Grade 4 Objectives from Goals 1, 2, and 3	Cognition	Interpretation	Critical Stance	Connections
Competency Goal 1: The learner will apply enabling strategies and skills to read and write.				
1.01 Use word identification strategies appropriately and automatically when encountering unknown words.	☆			
1.02 Infer word meanings from taught roots, prefixes, and suffixes to decode words in text to assist comprehension.	α			
1.03 Identify key words and discover their meanings and relationships through a variety of strategies.	α			
1.04 Increase reading and writing vocabulary.	☆			
1.05 Use word reference materials to identify and comprehend unknown words.	α			
1.06 Read independently daily from self-selected materials.	☆	☆	☆	☆
Competency Goal 2: The learner will apply strategies and skills to comprehend text that is read, heard, and viewed.				
2.01 Use metacognitive strategies to comprehend text and to clarify meaning of vocabulary.	α	☆	α	☆
2.02 Interact with the text before, during, and after reading, listening, or viewing by setting a purpose using prior knowledge and text information, making predictions, formulating questions, locating relevant information, and making connections with previous experiences, information, and ideas.	α	α	α	α
2.03 Read a variety of texts including fiction, nonfiction, poetry, and drama.	☆	☆	☆	☆
2.04 Identify and interpret elements of fiction and nonfiction and support by referencing the text to determine the plot, theme, main idea and author's choice of words.	α		α	
2.05 Make inferences, draw conclusions, make generalizations, and support by referencing the text.		α		
2.06 Summarize major points in fiction and nonfiction text(s) to clarify and retain information and ideas.	α			
2.07 Determine usefulness of information and ideas consistent with purpose.	α		α	
2.08 Verify the meaning or accuracy of the author's statement(s) by referencing the text or other resources.	☆	α	α	☆
2.09 Listen actively.	☆	☆	☆	☆

Competency Goal 3: The learner will make connections through the use of oral language, written language, and media and technology.				
3.01 Respond to fiction, nonfiction, poetry, and drama using interpretive, critical, and evaluative processes.	α	α	α	α
3.02 Analyze characters, events, and plots from different selections and cite supporting evidence.		☆	α	α
3.03 Consider the ways language and visuals bring characters to life, enhance plot development, and produce a response.		α	α	☆
3.04 Make informed judgments about television and film/video productions.		☆	☆	
3.05 Integrate information from two or more sources to expand understanding of text.		☆	☆	α
3.06 Conduct research for assigned or self-selected projects (with assistance) from a variety of sources through the use of technological and informal tools.	☆	☆	☆	☆

Table 3: English Language Arts goals and objectives linked to the four categories for Grade 5

English Language Arts, Grade 5 Objectives from Goals 1, 2, and 3	Cognition	Interpretation	Critical Stance	Connections
Competency Goal 1: The learner will apply enabling strategies and skills to read and write.				
1.01 Expand and refine vocabulary through knowledge of prefixes, suffixes, roots, derivatives, and etymologies to assist comprehension.	α			
1.02 Select key vocabulary critical to the text and apply appropriate meanings as necessary for comprehension.	α			
1.03 Increase reading and writing vocabulary.	☆			
1.04 Use word reference materials to identify and comprehend unknown words.	α			
1.05 Read independently daily from self-selected materials.	☆	☆	☆	☆
Competency Goal 2: The learner will apply strategies and skills to comprehend text that is read, heard, and viewed.				
2.01 Use metacognitive strategies independently and flexibly to monitor comprehension and extend vocabulary.	α	☆	α	☆
2.02 Interact with the text before, during, and after reading, listening, and viewing by making predictions, formulating questions, supporting answers from textual information, previous experience, and/or other sources, drawing on personal, literary, and cultural understandings, seeking additional information.	α	α	α	α
2.03 Read a variety of texts including fiction, nonfiction, poetry, and drama.	☆	☆	☆	☆
2.04 Identify elements of fiction and nonfiction and support by referencing the text to determine the plot development, author's choice of words, and effectiveness of figurative language.	α	α	α	
2.05 Evaluate inferences, conclusions, and generalizations and provide evidence by referencing the text(s).		α	α	
2.06 Analyze choice of reading materials congruent with purposes.	α		α	
2.07 Evaluate the usefulness and quality of information and ideas based on purpose, experiences, text(s) and graphics.	α		α	
2.08 Explain and evaluate relationships that are causal, hierarchical, temporal, problem-solution.	☆	α	α	☆

2.09 Listen actively and critically.	☆	☆	☆	☆
2.10 Identify strategies used by a speaker or a writer to inform, entertain, or influence an audience.			α	
Competency Goal 3: The learner will make connections through the use of oral language, written language, and media and technology.				
3.01 Respond to fiction, nonfiction, poetry, and drama using interpretive, critical, and evaluative processes.	α	α	α	α
3.02 Make connections between texts by recognizing similarities and differences based on a common lesson, theme, or message.		☆	α	α
3.03 Justify evaluation of characters and events from different selections by citing supporting evidence in the text(s).		☆	☆	α
3.04 Make informed judgments about television, radio, video/film productions, and other electronic mediums and/or formats.	☆	☆	☆	☆
3.05 Integrate main idea and supporting details from multiple sources to expand understanding of texts.	☆	☆	α	α
3.06 Conduct research (with assistance) from a variety of sources for assigned or self-selected projects.	☆	☆	☆	☆
3.07 Make informed judgments about bias, propaganda, stereotyping, and media techniques.	☆	α	α	☆

Table 4: English Language Arts goals and objectives linked to the four categories for Grade 6.

English Language Arts, Grade 6 **Goals 1, 2, 3, 4, 5, 6**	Cognition	Interpretation	Critical Stance	Connections
Competency Goal 1: The learner will use language to express individual perspectives drawn from personal or related experience.				
1.01 Narrate a fictional or autobiographical account.	☆	☆	☆	☆
1.02 Explore expressive materials that are read, heard, and viewed.	☆	☆	☆	☆
1.03 Interact appropriately in group settings.	☆	☆	☆	☆
1.04 Reflect on learning experiences.		☆	☆	☆
Competency Goal 2: The learner will explore and analyze information from a variety of sources.				
2.01 Explore informational materials that are read, heard, and/or viewed.	α	α	α	α
2.02 Use multiple sources of print and nonprint information in developing informational materials such as brochures, newsletters, and infomercials.	☆	☆	☆	☆
Competency Goal 3: The learner will examine the foundations and the use of argument.				
3.01 Respond to public documents, such as editorials and school or community policies, that establish a position.	α	α	α	☆
3.02 Explore the problem-solution process.	☆	☆	☆	☆
3.03 Study arguments that evaluate.		☆	☆	☆
Competency Goal 4: The learner will use critical thinking skills and create criteria to evaluate text and multimedia.				
4.01 Determine the purpose of the author or creator.	α	α	α	☆
4.02 Develop (with teacher assistance) and apply appropriate criteria to evaluate the quality of communication.	☆	α	α	α
4.03 Recognize and develop a stance of a critic.		☆	α	☆
Competency Goal 5: The learner will respond to various literary genres using interpretive and evaluative processes.				
5.01 Increase fluency, comprehension, and insight through a meaningful and comprehensive reading program.	α	α	α	α

5.02 Study the characteristics of literary genres (fiction, nonfiction, drama, and poetry).	☆	☆	α	☆
Competency Goal 6: The learner will apply conventions of grammar and language usage.				
6.01 Demonstrate an understanding of conventional written and spoken expression.	α	☆	α	
6.02 Identify and edit errors in spoken and written English.	☆			

Table 5: English Language Arts goals and objectives linked to the four categories for Grade 7

English Language Arts, Grade 7 **Goals 1, 2, 3, 4, 5, 6**	Cognition	Interpretation	Critical Stance	Connections
Competency Goal 1: The learner will use language to express individual perspectives in response to personal, social, cultural, and historical issues.				
1.01 Narrate an account such as a news story or historical episode.	☆	☆	☆	☆
1.02 Explore expressive materials that are read, heard, and viewed.	☆	☆	☆	☆
1.03 Interact in group settings.	☆	☆	☆	☆
1.04 Reflect on learning experiences.		☆	☆	☆
Competency Goal 2: The learner will synthesize and use information from a variety of sources.				
2.01 Explore informational materials that are read, heard, and/or viewed.	α	α	α	α
2.02 Develop informational products and/or presentations that use and cite at least three print or nonprint sources.	☆	☆	☆	☆
Competency Goal 3: The learner will refine the understanding and use of argument.				
3.01 Analyze a variety of public documents that establish a position or point of view.	α	☆	α	☆
3.02 Use the problem-solution process.	☆	☆	☆	☆
3.03 Create arguments that evaluate.	☆	☆	☆	☆
Competency Goal 4: The learner will refine critical thinking skills and create criteria to evaluate text and multimedia.				
4.01 Analyze the purpose of the author or creator.	α	α	α	☆
4.02 Develop (with assistance) and apply appropriate criteria to evaluate the quality of communication.	☆	α	α	α
4.03 Develop the stance of a critic.		☆	α	☆
Competency Goal 5: The learner will respond to various literary genres using interpretive and evaluative processes.				
5.01 Increase fluency, comprehension, and insight through a meaningful and comprehensive reading program.	α	α	α	α
5.02 Study the characteristics of literary genres (fiction, nonfiction, drama, and poetry).	☆	☆	α	☆

Competency Goal 6: The learner will apply conventions of grammar and language usage.				
6.01 Model an understanding of conventional written and spoken expression.	α	☆	α	
6.02 Continue to identify and edit errors in spoken and written English.	☆			

Table 6: English Language Arts goals and objectives linked to the four categories for Grade 8

English Language Arts, Grade 8 **Goals 1, 2, 3, 4, 5, 6**	Cognition	Interpretation	Critical Stance	Connections
Competency Goal 1: The learner will use language to express individual perspectives in response to personal, social, cultural, and historical issues.				
1.01 Narrate an account.	☆	☆	☆	☆
1.02 Explore expressive materials that are read, heard, and viewed.	☆	☆	☆	☆
1.03 Interact in groups and/or seminars.	☆	☆	☆	☆
1.04 Reflect on learning experiences.		☆	☆	☆
Competency Goal 2: The learner will use and evaluate information from a variety of sources.				
2.01 Explore informational materials that are read, heard, and/or viewed.	α	α	α	α
2.02 Create a research product in both written and presentational form.	☆	☆	☆	☆
Competency Goal 3: The learner will continue to refine the understanding and use of argument.				
3.01 Evaluate a variety of public documents.	α	☆	α	☆
3.02 Refine the use of the problem-solution process.	☆	☆	☆	☆
3.03 Create arguments that persuade.		☆	☆	☆
Competency Goal 4: The learner will continue to refine critical thinking skills and apply criteria to evaluate text and multimedia.				
4.01 Analyze the purpose of the author or creator and the impact of that purpose.	α	α	α	☆
4.02 Develop (with limited assistance) and apply appropriate criteria to evaluate the quality of the communication.	☆	α	α	α
4.03 Use the stance of a critic.		☆	α	☆
Competency Goal 5: The learner will respond to various literary genres using interpretive and evaluative processes.				
5.01 Increase fluency, comprehension, and insight through a meaningful and comprehensive reading program.	α	α	α	α

5.02 Study the characteristics of literary genres (fiction, nonfiction, drama, and poetry).	☆	☆	α	☆
Competency Goal 6: The learner will apply conventions of grammar and language usage.				
6.01 Model an understanding of conventional written and spoken expression.	α	☆	α	
6.02 Continue to identify and edit errors in spoken and written English.	☆			

For Edition 2, developed for administration in the 2007–2008 school year, categories are no longer be an item criteria.

For the NC EOC Test of Occupational English I, the tests are developed directly around the goals and objectives found in the NC Occupational Course of Study rather than the four categories described above. The Occupational Course of Study Occupational English I is available at: http://www.ncpublicschools.org/docs/ec/development/mental/07eng.pdf. Only the objectives that demonstrate a link with the NC*SCS* English I curriculum are measured by the Occupational Course of Study test of Occupational English I.

Testing of North Carolina students' mathematics skills relative to the Mathematics competency goals and objectives in the *Standard Course of Study (SCS)* is another component of the North Carolina Testing Program. Students test using the ***NCEXTEND2*** are tested in Mathematics at the end of grades three through eight and at the end of the Occupational Course of Study (OCS) Occupational Mathematics I course.

The previous revision to the mathematics North Carolina *Standard Course of Study* (NC*SCS*) was in 1998. Following the North Carolina five-year revision cycle, the 2003 revisions "have been developed through a series of public hearings and the efforts of parents, teachers, educational officials, and representatives of business and industry" (p.3). State legislation requires alignment with the National Assessment of Educational Progress (NAEP) frameworks. The 2003 revision to the *SCS* was developed to align with the framework for NAEP, which was changed effective for NAEP's 2005 administration. In addition, "The intent of the North Carolina Mathematics *Standard Course of Study* is to provide a set of mathematical competencies for each grade and high school course to ensure rigorous student academic performance standards that are uniform across the state" (p.2). Hence, alignment with NAEP and rigor were two large themes in the revised *SCS*. The *Standard Course of Study* is available at http://www.ncpublicschools.org/curriculum/mathematics/

In addition to NAEP, the curriculum review included results from the *Third International Mathematics and Science Study* (TIMMS) and *Principles and Standards of School Mathematics* (National Council of Teachers of Mathematics, 2000).

The North Carolina Mathematics *Standard Course of Study* clearly defines a curriculum focused on what students will need to know and be able to do to be successful and contributing citizens in our state and nation in the years ahead. As defined in the 2003

North Carolina Mathematics *Standard Course of Study*, the goals of mathematics education are for students to develop

(1) strong mathematical problem-solving and reasoning abilities;
(2) a firm grounding in essential mathematical concepts and skills, including computation and estimation;
(3) connections within mathematics and with other disciplines;
(4) the ability to use appropriate tools, including technology, to solve mathematical problems;
(5) the ability to communicate an understanding of mathematics effectively; and
(6) positive attitudes and beliefs about mathematics.

The elementary program of mathematics includes knowledge of number facts and computational processes and emphasizes solving problems in a variety of contexts. Middle grades highlight rational numbers and algebra; students will develop fluency in solving multistep equations and modeling linear functions.

For the ***NCEXTEND2*** EOC Tests of Occupational Math, English, and Life Skills Science, the tests are developed directly around the goals and objectives found in the NC Occupational Course of Study rather than the four categories described above.

The Occupational Course of Study Mathematics I is available at: http://www.ncpublicschools.org/docs/ec/development/mental/07math.pdf. Only the objectives that demonstrate a link with the NC*SCS* Algebra I curriculum are measured by the Occupational Course of Study test of Occupational Mathematics I.

The Occupational Course of Study English I is available at: http://www.ncpublicschools.org/docs/ec/development/mental/07eng.pdf. Only the objectives that demonstrate a link with the NC*SCS* English I curriculum are measured by the Occupational Course of Study test of Occupational English I.

The Occupational Course of Study Life Skills Science is available at: http://www.ncpublicschools.org/docs/ec/development/mental/07sci.pdf. Only the objectives that demonstrate a link with the NC*SCS* Biology curriculum are measured by the Occupational Course of Study test of Life Skills Science I and II. The ***NCEXTEND2*** EOC Tests of Occupational Life Skills Science covers both course I and II in order to ensure content coverage of Biology-linked objectives.

2.3 Test Specifications

Delineating the purpose of a test must come before the test design. A clear statement of purpose provides the overall framework for test specifications, test blueprint, item development, tryout, and review. A clear statement of test purpose also contributes significantly to appropriate test use in practical contexts (Millman & Greene, 1993). The tests in the North Carolina Testing Program are designed in alignment with the NC*SCS* or NCOCS. The purpose of the North Carolina EOG and EOC Tests of Reading

Comprehension or Mathematics is legislated by General Statute 115C-174.10 and focuses on the measurement of individual student mathematical skills and knowledge as outlined in the NC*SCS* or NCOCS.

Test specifications for the ***NCEXTEND2*** reading comprehension and mathematics tests are developed in accordance with the competency goals and objectives specified in the NC*SCS* or NCOCS. A summary of the test specifications is provided in Appendix B. These test specifications also are generally designed to include the following:

(1) percentage of questions from higher or lower thinking skills and classification of each test question into level of difficulty;
(2) percentage of test questions that measure a specific goal, objective, domain, or category;
(3) percentage of item types such as graphs, charts, diagrams, political cartoons, analogies, and other specialized constraints
(4) for tests that contain mathematical calculations, percentage of questions that require the use of a calculator and percentage that do not allow the use of a calculator.
(5) for tests that contain reading selections, the percentage or number of types of reading selections (e.g. literary vs. nonliterary passages, composition vs. literary analysis, etc.)

In general, the ***NCEXTEND2*** End-of-Grade tests were designed to follow the test specifications of the general End-of-Grade tests. Slight modifications were made to the test blueprint to accommodate the smaller number of items. For example, the number of reading selections was reduced.

The ***NCEXTEND2*** End-of-Course tests are designed to measure the objectives from the Occupational Course of Study which align to objectives in the corresponding course from the *Standard Course of Study*. This linkage is provided in the test specifications in Appendix B.

Test blueprints, specific layouts or "road maps" to ensure the parallel construction of multiple test forms, when necessary, were developed from the test specifications. These blueprints identify the exact numbers of items from each objective that are used in the creation of the test forms. At the objective level, the tests are comprised of items that are a random domain sample from the superordinate goal, and as such there may be more than one layout. However, at the goal level and in terms of the relative emphasis of the objective coverage, all test blueprints conform to the test specifications.

Format changes to ***NCEXTEND2*** from the format used for the general North Carolina EOG/EOC tests were also decided at this point. Based on observations of student work supporting the previous alternative assessment, NCAAAI, a multiple-choice format was decided up. To reduce complexity a two item per page, simplified language format was decided on. However, language aligned to the curriculum was retained. That is, any word in the curriculum was "fair game" for use on the assessment regardless of level of

complexity. Reading load was also reduced by using three-option multiple-choice questions rather than the four-options used on the general EOG, based on research supporting three options as sufficient (Haladyna & Downing, 1993).

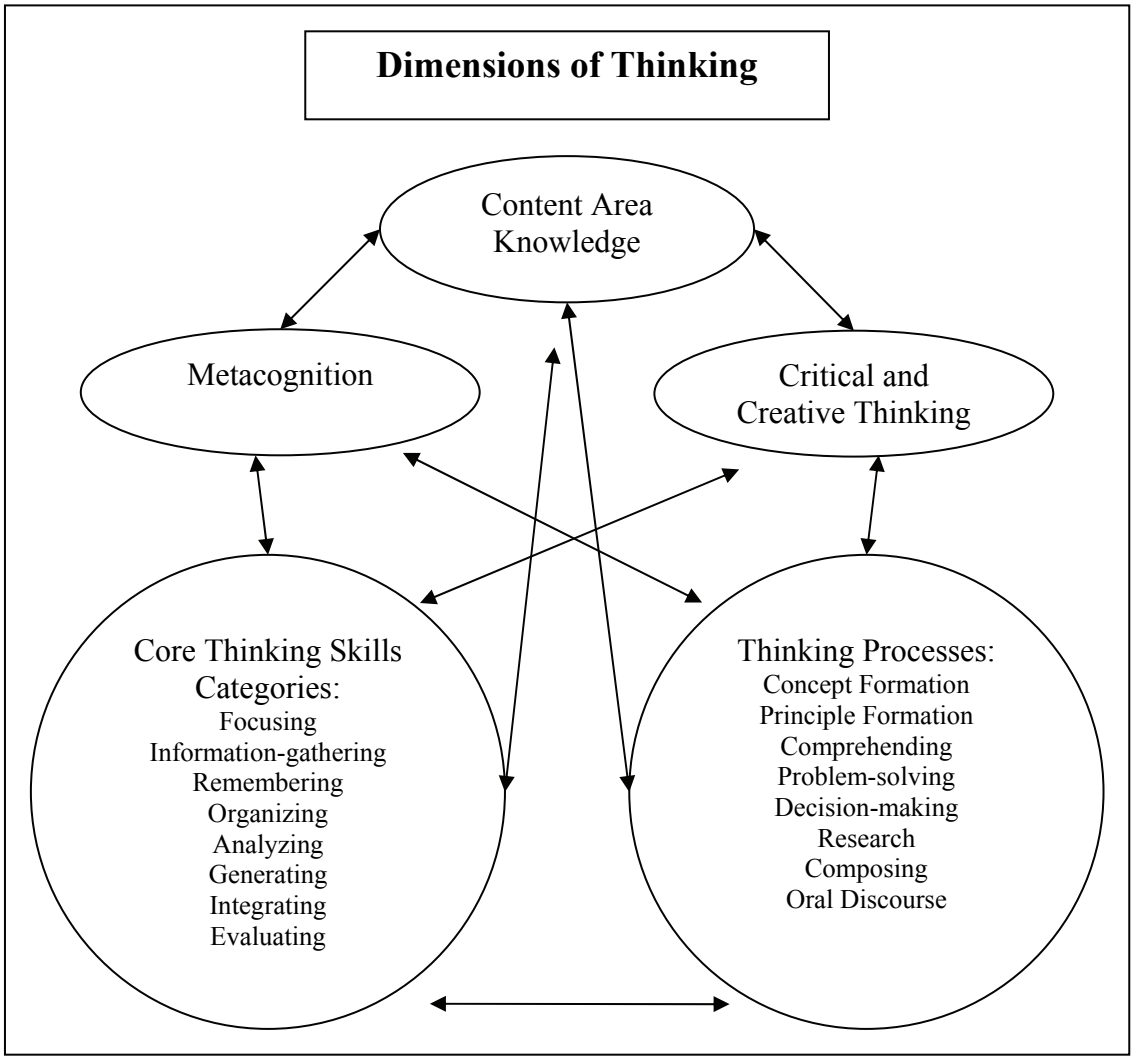
2.4 Item Writing

Each item is written to be aligned with a specific objective in the NC*SCS*. Items on the ***NCEXTEND2*** EOG and EOC Tests of Mathematics and Reading Comprehension are developed using level of difficulty and thinking skill level. Item writers use these frameworks when developing items. The purpose of the categories is to ensure a balance of difficulty as well as a balance across the different cognitive levels among the items in the North Carolina mathematics and reading comprehension tests.

For the purposes of guiding item writers to provide a variety of items, item writers were instructed to classify the items into three levels of difficulty: easy, medium, and hard. Item writers were asked to make these a priori judgments based on the population expected to be administered ***NCEXTEND2*** tests as defined by the eligibility criteria. Easy items are those items that the item writer believes can be answered correctly by approximately 70% or greater of the examinees. Medium items can be answered correctly by 50–60% of the examinees. Difficult items can be answered correctly by approximately 30% or less of the examinees. The item writers were further instructed to write approximately 25% of their items at the hard level, 25% at the easy level, and the remaining 50% at the medium level of difficulty. These targets are used for item pool development to ensure an adequate range of difficulty.

A more recent consideration for item development is the classification of items by thinking skill level, the cognitive skills that an examinee must use to solve a problem or answer a test question. Thinking skill levels are based on an adaptation of *Dimensions of Thinking* by Marzano et al. (1988). Thinking skill levels, in addition to their usefulness in framing achievement tests, also provide a practical framework for curriculum development, instruction, assessment, and staff development. Thinking skills begin with the basic skill of remembering and move to more complex thinking skills, such as analysis, integration, and evaluation. Figure 2 below shows a visual representation of the framework.

Figure 2: Thinking skills framework used to develop items in the North Carolina Testing Program adapted from Robert Marzano (1988).



2.5 Selecting and Training Item Writers

Once the test specifications were outlined for the ***NCEXTEND2*** EOG and EOC Tests of Reading Comprehension and Mathematics, North Carolina educators were recruited and trained to write new items for the state tests. As addressed in section 2.1, in some cases for the EOG ***NCEXTEND2***, items were modified by internal content specialists from previously written items for the general EOG. All items for the ***NCEXTEND2*** EOC tests were newly written by North Carolina teachers.

Diversity among the item writers and their knowledge of the current NC*SCS* or NCOCS were addressed during recruitment. The purpose of using North Carolina educators to develop items was to ensure instructional validity of the items. For some items for the ***NCEXTEND2*** End-of-grade tests, some item development was contracted to an external

vendor. The vendor was encouraged to use North Carolina educators in addition to professional item writers to generate items that would align with the NC*SCS*.

Training for item writers occurred over a two-day period. Item writers received a packet of materials designed from the curriculum, which included information on content and procedural guidelines as well as information on stem and foil development. The item writing guidelines are included in Appendix A. The items developed during the training were evaluated by content specialists, who then provided feedback to the item writers on the quality of their items.

2.6 Reviewing Items for Field Testing

Each item was reviewed by North Carolina educators prior to being placed on a field test. Once items were reviewed by educators, test development staff members, with input from curriculum specialists, reviewed each item. Items were also reviewed by educators and/or staff members who are familiar with the needs of students with disabilities and students with limited English proficiency.

The criteria used by the review team to evaluate each test item included the following:

1) Conceptual criteria:
   - objective match (curricular appropriateness)
   - thinking skill match
   - fair representation
   - lack of bias
   - clear statement
   - single problem
   - one best answer
   - common context in foils
   - each foil credible
   - meets all technical criteria for item parameters

2) Language criteria:
   - appropriate for age, simplified as appropriate
   - correct punctuation
   - spelling and grammar
   - lack of excess words
   - no stem/foil clues
   - no negative in foils

3) Format criteria:
   - logical order of foils
   - familiar presentation style, print size, and type
   - correct mechanics and appearance

- equal length foils

4) Diagram criteria:
   - necessary
   - clean
   - relevant
   - unbiased

The detailed review of items prior to field testing helped to prevent the loss of items due to quality issues.

2.7 Assembling Field Test Forms

When developing tests for the North Carolina Testing Program, items written for each grade and subject area were assembled into forms for field testing. The forms were organized according to specifications set forth for the operational tests. Additional teachers reviewed the assembled forms for clarity, correctness, potential bias, and curricular appropriateness. The following table provides a breakdown of the number of forms and the number of items per form for the Spring 2006 field test.

Table 7: Breakdown of the number of forms and the number of items per form for the ***NCEXTEND2*** 2006 field test

Subject/ Grade	Number of Forms	Number of Items per Form
Reading 3	3	40
Reading 4	3	40
Reading 5	3	40
Reading 6	3	40
Reading 7	3	40
Reading 8	3	40
OCS English I	3	40
Math 3	3	40
Math 4	3	40
Math 5	3	40
Math 6	3	40
Math 7	3	40
Math 8	3	40
OCS Math I	3	40
OCS Science I & II	3	40

2.8 Sampling Procedures

Reading selections and items for the test were field tested using the population of students for which the assessment was intended. The following table provides a breakdown of the field test population.

Table 8: Field test sample characteristics

			Gender		Ethnicity					
Course/ Grade	**Year**	**Number of students tested**	**% Male**	**% Female**	**% Asian**	**% Black**	**% Hispanic**	**% American Indian**	**% Multi**	**% White**
Reading 3	2006	1535	66.99	33.01	0.51	39.07	8.85	2.74	3.45	45.38
Reading 4	2006	1625	71.76	28.24	0.75	40.13	10.00	2.60	2.72	43.80
Reading 5	2006	1742	68.93	31.07	0.93	40.30	10.67	3.35	1.78	42.97
Reading 6	2006	1488	66.86	33.14	1.19	43.29	8.09	2.92	2.62	41.90
Reading 7	2006	1405	66.96	33.04	0.93	46.92	7.43	2.08	1.64	40.99
Reading 8	2006	1328	66.98	33.02	0.84	45.53	6.40	2.20	1.83	43.13
OCS Eng I	2006	1276	65.60	33.86	0.71%	50.95	3.94	4.42	1.26	38.72
Math 3	2006	1219	63.96	36.04	0.31	41.17	7.12	1.77	3.23	46.39
Math 4	2006	1292	67.33	32.77	0.95	42.72	9.33	2.17	2.89	41.94
Math 5	2006	1362	67.15	32.85	0.88	43.70	8.51	2.43	1.55	42.93
Math 6	2006	1264	64.19	35.81	1.24	43.72	7.91	2.35	2.60	42.19
Math 7	2006	1203	65.61	34.39	0.58	48.39	5.94	2.02	1.71	41.36
Math 8	2006	1249	65.19	34.81	0.87	45.83	6.22	1.93	1.78	43.29
OCS Math I	2006	1481	64.02	35.98	0.67	49.94	4.21	1.96	1.81	41.64
OCS Science	2006	1432	67.84	32.16	0.39	57.09	3.15	2.95	1.77	34.65

Notes: The percentages for demographic categories are for all examinees with available demographic data, averaged across forms.

2.9 Item Analysis and Selection

Field testing provides important data for determining whether an item will be retained for use on an operational ***NCEXTEND2*** EOG Test of Reading Comprehension or Mathematics or ***NCEXTEND2*** EOC Test of Occupational English, Occupational Mathematics, or Occupational Science. The North Carolina Testing Program typically uses both classical measurement analysis and item response theory analysis to determine if an item has sound psychometric properties. However, due to the small sample size of the tested population, classical statistics alone were used to make psychometric decisions. These analyses provide information that assists North Carolina Testing Program staff and consultants in determining the extent to which an item can accurately measure a student's level of achievement.

Field test data for the ***NCEXTEND2*** tests were analyzed by the NCDPI psychometric staff. Item statistics and description information were then attached to the item record for each item. Item records contained the statistical, descriptive, and historical information for an item; a copy of the item as it was field tested; any comments by reviewers; and curricular and psychometric notations.

2.10 Classical Measurement Analysis

For each item, the p-value (proportion of examinees answering an item correctly) and the point-biserial correlation between the item score and the total test score were computed using the statistical software SAS. In addition, frequency distributions of the response choices were tabulated.

2.11 Sensitivity Analysis

It is important to know the extent to which an item on a test performs differently for different students. Differential item functioning (DIF) examines the relationship between the score on an item and group membership while controlling for ability. The Mantel-Haenszel procedure examines DIF by examining (j 2 x 2) contingency tables, where j is the number of different levels of ability actually achieved by the examinees (actual total scores received on the test). The focal group is the focus of interest and the reference group serves as a basis for comparison for the focal group (Dorans and Holland, 1993; Camilli and Shepherd, 1994). For example, females might serve as the focal group and males might serve as the reference group to determine if an item is biased toward or against females.

The Mantel-Haenszel chi-square statistic tests the alternative hypothesis that a linear association exists between the row variable (score on the item) and the column variable (group membership). The X^2 distribution has one degree of freedom (df) and is

determined where r^2 is the Pearson correlation between the row variable and the column variable (SAS Institute, 1994).

The Mantel-Haenszel (MH) Log Odds Ratio statistic in SAS was used to determine the direction of differential item functioning (DIF). This measure was obtained by combining the odds ratios across levels with the formula for weighted averages (Camilli and Shepherd, 1994, p. 110).

For this statistic, the null hypothesis of no relationship between score and group membership, or that the odds of getting the item correct are equal for the two groups, is not rejected when the odds ratio equals 1. For odds ratios greater than 1, the interpretation is that an individual at score level *j* of the reference group has a greater chance of answering the item correctly than an individual at score level *j* of the focal group. Conversely, for odds ratios less than 1, the interpretation is that an individual at score level *j* of the focal group has a greater chance of answering the item correctly than an individual at score level *j* of the reference group. The Breslow-Day Test is used to test whether the odds ratios from the *j* levels of the score are all equal. When the null hypothesis is true, the statistic is distributed approximately as a chi square with *j*-1 degrees of freedom (SAS Institute, 1985).

2.12 Criteria for Inclusion in Item Pools

Items were flagged as exhibiting psychometric problems or differential item functioning due to ethnicity/race or gender according to the following criteria:

- "weak prediction"—the p-bis was less than .25
- "ethnic" DIF—the log odds ratio was greater than 1.5 (favored whites) or less than 0.67 (favored blacks), and
- "gender" DIF—the log odds ratio was greater than 1.5 (favored females) or less than 0.67 (favored males).

The ethnic and gender bias DIF were determined by examining the significance levels of items from several forms and identifying a typical point on the continuum of odds ratios that was statistically significant at the $\alpha = 0.05$ level. Because the tests were to be used to evaluate the implementation of the curriculum, items were not flagged on the basis of the difficulty of the item (threshold). Average item pool characteristics for each of the ***NCEXTEND2*** Tests are provided below.

2.13 Item Statistics

Table 9: Average item pool statistics for the ***NCEXTEND2*** Reading Comprehension and Occupational English I Tests, the ***NCEXTEND2*** Mathematics and Occupational Mathematics I Tests, and the ***NCEXTEND2*** Life Skills Science.

Subject/ Grade	p-value	r-bis	Bias (Odds Ratio)	
			Ethnic/Race	*Gender*
Reading 3	0.400	0.194	1.030	1.033
Reading 4	0.427	0.209	1.035	0.993
Reading 5	0.438	0.231	1.028	0.991
Reading 6	0.408	0.177	1.025	0.999
Reading 7	0.417	0.200	1.033	0.998
Reading 8	0.465	0.287	1.042	1.003
OCS English	0.710	0.567	1.013	1.084
Math 3	0.473	0.285	1.030	1.033
MatMath 4	0.462	0.265	1.033	1.016
Math 5	0.446	0.243	1.034	1.012
Math 6	0.373	0.373	1.030	0.999
Math 7	0.358	0.077	1.044	0.994
Math 8	0.376	0.115	1.049	0.995
OCS Math I	0.637	0.425	1.037	1.083
OCS Science	0.723	0.480	1.040	1.102

All items, statistics, and comments were reviewed by curriculum specialists and testing consultants, and items found to be inappropriate for curricular or psychometric reasons were deleted. In addition, items flagged for exhibiting ethnic or gender DIF (Mantel-Haenszel indices greater than 1.5 or less than 0.67) were then reviewed by a bias review committee as described below.

2.14 Bias Review Committee

The bias review team members, selected because of their knowledge of the curriculum area and their diversity, evaluated the items using the following questions:

1) Does the item contain any offensive gender, ethnic, religious, or regional content?
2) Does the item contain gender, ethnic, or cultural stereotyping?
3) Does the item contain activities that will be more familiar to one group than another?
4) Do the words in the item have a different meaning in one group than in another?
5) Could there be group differences in performance that are unrelated to proficiency in the content areas?

An answer of "yes" to any of the questions resulted in the unique five-digit item number being recorded on an item bias sheet along with the nature of the bias.

Items that were flagged by the bias review committee were then reviewed by curriculum specialists. If curriculum found the items measured content expected to be mastered by all students, the item was retained for test development. Items consistently identified as exhibiting bias by both review committees were deleted from the item pool.

2.15 Operational Test Construction

Following field testing of items, operational tests were constructed. For all ***NCEXTEND2*** tests one operational form was assembled from items that were found to be psychometrically sound and to measure curriculum standards as specified in the test specifications. The final item pool was based on approval by the (1) TOPS Content experts for curriculum purposes and (2) NCDPI Division of Accountability Services/NC Testing Program for psychometrically sound item performance. The forms for each grade and course were developed according to test specifications outlined during the initial phase of test development.

In some objectives, the ***NCEXTEND2*** End-of-Grade Math and OCS did not have sufficient psychometrically sound items to fulfill the test blueprint in certain objectives. For this reason, the tests were supplemented with an additional eight items aligned with those objectives. These items went through the same development and review processes previously described. These additional eight items were included for calibration purposes. The final score for the pilot administration was calculated based off 40 items, substituting in a new item when the original field tested item did not improve in psychometric properties. This approach was taken after consultation with psychometric advisors and examination of practices common in testing programs with smaller populations and resources. In subsequent operational administrations, the tests were presented to the student with only the 40 scored, aligned, and psychometrically sound items.

2.16 Setting the Target p-value for Operational Tests

P-value is a measure of the difficulty of an item. P-values can range from 0 to 1. The letter "p" symbolizes the proportion of examinees that endorse an item correctly. So an item with a p-value of 0.75 was correctly endorsed by 75 percent of the students who took the item during the field test, and one might expect that roughly 75 of the 100 examinees will answer it correctly when the item is put on an operational test. An easier item has a p-value that is high—that means that a large proportion of the examinees got the item right during the field test. A difficult item has a low p-value, meaning that few examinees endorsed the item correctly during tryout.

The NCDPI psychometric staff must choose a target p-value for each operational test prior to assembling the tests. Ideally, the average p-value of a 3-option test would be 0.665, which is the theoretical average of a student getting 100 percent correct on the test and a student scoring a "chance" performance (33 percent for a 3-option multiple-choice test). That is, (100 + 33/2). The target is chosen by first looking at the distribution of the p-values for a particular item pool. While the goal is to set the target as close to 0.665 as possible, it is often the case that the target p-value is set between the ideal 0.665 and the average p-value of the item pool. The

average p-value of the item pool and the p-value of assembled forms are provided for comparison.

Table 10: Comparison of p-values of item pools with p-values of assembled forms

Subject/ Grade	p-Value of Item Pool	p-Value of Assembled Pilot Form	p-Value after Administration
Reading 3	0.400	0.425	0.495
Reading 4	0.427	0.456	0.517
Reading 5	0.438	0.470	0.537
Reading 6	0.408	0.449	0.514
Reading 7	0.417	0.464	0.499
Reading 8	0.465	0.480	0.517
OCS English I	0.710	NA	0.730
Math 3	0.473	NA	0.635
Math 4	0.462	NA	0.557
Math 5	0.446	NA	0.544
Math 6	0.373	NA	0.491
Math 7	0.358	NA	0.482
Math 8	0.376	NA	0.477
OCS Math I	0.637	NA	0.644
OCS Science I and II	0.723	0.740	0.7577

Note: Math 3–8, OCS Math, and OCS English were 48 items at FT, 40 items after administration

2.17 Setting the Test Administration Time

Other important considerations in the construction of the ***NCEXTEND2*** tests were the number of items to be included on the test and the time necessary to complete testing. When assembling operational tests, the NCDPI psychometric staff reviewed field test timing data. They determined the amount of time necessary for 98% of the students to complete the test. For operational tests, the resulting total number of items and the time allotted for each grade/subject area is provided below.

Table 11: Number of items per test and time allotted by grade

Subject/ Grade	Number of Items	Approximate Time
Reading 3	40	135
Reading 4	40	135
Reading 5	40	135
Reading 6	40	135
Reading 7	40	135
Reading 8	40	135
Occupational English I	48	128
Mathematics 3 – Calculator Active	27	88

Mathematics 3	13	60
Mathematics 4–Calculator Active	27	88
Mathematics 4–Calculator Inactive	13	60
Mathematics 5–Calculator Active	27	88
Mathematics 5–Calculator Inactive	13	60
Mathematics 6–Calculator Active	27	88
Mathematics 6–Calculator Inactive	13	60
Mathematics 7–Calculator Active	27	88
Mathematics 7–Calculator Inactive	13	60
Mathematics 8	40	108
Occupational Mathematics I	48	128
Occupational Life Skills Science I and II	40	128

2.18 Reviewing Assembled Operational Tests

Once forms were assembled to meet test specifications, target p-values, and item parameter targets, TOPS content staff, TOPS EC staff, subject area teachers, and EC teachers then reviewed the assembled forms. The criteria for evaluating each group of forms included the following:

- The content of the test forms should reflect the goals and objectives of the North Carolina *Standard Course of Study* or North Carolina Occupational Course of Study for the subject and grade (curricular validity);
- The content of test forms should reflect the goals and objectives taught in North Carolina schools (instructional validity);
- Items should be clearly and concisely written, and the vocabulary appropriate to the target age level (item quality);
- Content of the test forms should be balanced in relation to ethnicity, gender, socioeconomic status, and geographic district of the state (test/item bias); and
- Each item should have one and only one best answer that is right; however, the distractors should appear plausible for someone who has not achieved mastery of the representative objective (one best answer).

Reviewers were instructed to take the tests (circling the correct responses in the booklet) and to provide comments and feedback next to each item. After reviewing the form, each reviewer independently completed the survey asking for his or her opinion as to how well the tests met the five criteria listed above. During the last part of the session the group discussed the tests and made comments as a group. The ratings and the comments were aggregated for review by NCDPI curriculum specialists and testing consultants. Test development staff members, with input from curriculum staff and content experts and editors, conducted the final content and grammar check for each test form.

Chapter Three: Test Administration

3.1 Test Administration

The ***NCEXTEND2*** End-of-Grade Reading Comprehension and Mathematics Tests are administered to students in grades 3 through 8 who meet eligibility criteria as part of the statewide assessment program. The standard for grade-level proficiency is a test score at Achievement Level Three or above.

The ***NCEXTEND2*** End-of-Course test of Occupational English I, Occupational Mathematics I, or Life Skills Science I and II is administered to students enrolled in the appropriate Occupational Course of Study course of Occupational English I, Occupational Mathematics I and/or Life Skills Science I and II. It is a multiple-choice test that measures knowledge, skills, and competencies in reading or mathematics that the typical student should have mastered during the course.

3.2 Training for Administrators

The North Carolina Testing Program uses a train-the-trainer model to prepare test administrators to administer North Carolina tests. Regional Accountability Coordinators (RACs) receive training in test administration from NCDPI Testing Policy and Operations staff at regularly scheduled monthly training sessions. Subsequently, the RACs provide training on conducting a proper test administration to Local Education Agency (LEA) test coordinators. LEA test coordinators provide training to school test coordinators. The training includes information on the test administrators' responsibilities, proctors' responsibilities, preparing students for testing, eligibility for testing, policies for testing students with special needs (students with disabilities and students with limited English proficiency), test security (storing, inventorying, and returning test materials), and the *Testing Code of Ethics*.

3.3 Preparation for Test Administration

School test coordinators must be accessible to test administrators and proctors during the administration of secure state tests. The school test coordinator is responsible for monitoring test administrations within the building and responding to situations that may arise during test administrations. Only employees of the school system are permitted to administer secure state tests. Test administrators are school personnel who have professional training in education and the state testing program. Test administrators may not modify, change, alter, or tamper with student responses on the answer sheets or test books. Test administrators are to thoroughly read the *Test Administrator's Manual* prior to actual test administration, discuss with students the purpose of the test, and read and study the codified North Carolina *Testing Code of Ethics*.

3.4 Test Security and Handling Materials

Compromised secure tests result in compromised test scores. To prevent contamination of test scores, the NCDPI maintains test security before, during, and after test administration at both the school system level and the individual school. School systems are also mandated to provide a secure area for storing tests. The Administrative Procedures Act 16 NCAC 6D .0302. states, in part, that

> *school systems shall (1) account to the department (NCDPI) for all tests received; (2) provide a locked storage area for all tests received; (3) prohibit the reproduction of all or any part of the tests; and (4) prohibit their employees from disclosing the content of or discussing with students or others specific items contained in the tests. Secure test materials may only be stored at each individual school for a short period prior to and after the test administration. Every effort must be made to minimize school personnel access to secure state tests prior to and after each test administration.*

At the individual school, the principal shall account for all test materials received. As established by APA 16 NCAC 6D .0306, the principal shall store test materials in a secure locked area except when in use. The principal shall establish a procedure to have test materials distributed immediately prior to each test administration. Before each test administration, the building level coordinator shall collect, count, and return all test materials to the secure, locked storage area. Any discrepancies are to be reported to the school system test coordinator immediately, and a report must be filed with the regional accountability coordinator.

3.5 Student Participation

The Administrative Procedures Act 16 NCAC 6D. 0301 requires that all public school students in enrolled grades for which the State Board of Education adopts a test, including every child with disabilities, shall participate in the testing program unless excluded from testing as provided by 16 NCC 6G.0305(g).

NCEXTEND2 *End of Grade Reading Comprehension and Mathematics Tests (Grades 3–8)*

All students in membership in grades 3–8 with an IEP that designates the use of ***NCEXTEND2*** for testing purposes are required to participate in the ***NCEXTEND2*** End-of-Grade Reading Comprehension and/or Mathematics Tests.

Occupational English I, Occupational Math I, and Occupational Life Skills Science I and II End-of-Course Tests

All students enrolled for credit in the Occupational Course of Study (OCS) in Occupational Mathematics I and/or Occupational English I must participate in the ***NCEXTEND2*** for Occupational Mathematics and/or Occupational English I. Students enrolled in Occupational Life Skills Science I or II and having completed the other Life Skills course must participate in the ***NCEXTEND2*** for Occupational Life Skills Science. Students who are repeating the course for credit must also be administered the end-of-course test. The student's most recent test score will be used for the purpose of state accountability.

3.6 Testing Accommodations

On a case-by-case basis where appropriate documentation exists, students with disabilities and students with limited English proficiency may receive testing accommodations. The need for accommodations must be documented in a current Individualized Education Program (IEP), Section 504 Plan, or LEP Plan. The accommodations must be used routinely during the student's instructional program or similar classroom assessments. For information regarding appropriate testing procedures, test administrators who provide accommodations for students with disabilities must refer to the most recent publication of *Testing Students with Disabilities* and any published supplements or updates. The publication is available through the local school system or at www.ncpublicshools.org/accountability/testing. Test administrators must be trained in the use of the specified accommodations by the school system test coordinator or designee prior to the test administration.

3.7 Students with Limited English Proficiency

Per HSP-C-005, students identified as limited English proficient shall be included in the statewide testing program. Students identified as limited English proficient who have been assessed on the state-identified language proficiency test as below Intermediate High in reading may participate for up to 2 years (24 months) in U.S. schools in the NCCLAS as an alternate assessment in the areas of reading and mathematics at grades 3 through 8 and 10 and in high school courses in which an end-of-course test is administered. Students identified as limited English proficient who have been assessed on the state-identified language proficiency test as below Superior, per HSP-A-011, in writing may participate in the NCCLAS in writing for grades 4, 7, and 10 for up to 2 years (24 months) in U.S. schools. All students identified as limited English proficient must be assessed using the state-identified language proficiency test at initial enrollment and annually thereafter during the window of February 1 to April 30. A student who enrolls after January 1 does not have to be retested during the same school year. Limited English proficient students who are administered the NCCLAS shall not be assessed off grade level. In March 2004, the State Board of Education adopted a temporary rule to make the following changes with respect to limited English proficient students during their first year in U.S. schools.*

**Note: First year of enrollment in U.S. schools refers to the first school year that a student has been enrolled in a U.S. school. It does not refer to a 12-month period. If a student has been enrolled in any U.S. school prior to this school year, the student, regardless of his/her enrollment period would be expected to be assessed in reading and mathematics.*

Schools shall:

- continue to administer state reading and mathematics tests for LEP students who score at or above Intermediate High on the reading section of the language proficiency test during their first year in U.S. schools. Results from these assessments will be included in the ABCs and AYP.

- not require LEP students (who score below Intermediate High on the reading section of the language proficiency test) in their first year in U.S. schools to be assessed on the reading End-of-Grade tests, High School Comprehensive Test in Reading, or the NC Checklist of Academic Standards (NCCLAS) for reading.

- for purposes of determining the 95%-tested rule in reading, use the language proficiency test from the spring administration for these students.

- not count mathematics results in determining AYP or ABCs performance composite scores for LEP students who score below Intermediate High on the reading section of the language proficiency test in their first year in U.S. schools.

- include students previously identified as LEP, who have exited LEP identification during the last two years, in the calculations for determining the status of the LEP subgroup for AYP only if that subgroup already met the minimum number of 40 students required for a subgroup.

3.8 Medical Exclusions

In some rare cases, students may be excused from the required state tests. The process for requesting special exceptions based on significant medical emergencies and/or conditions is as follows:

For requests that involve significant medical emergencies and/or conditions, the LEA superintendent or charter school director is required to submit a justification statement that explains why the emergency and/or condition prevents participation in the respective test administration during the testing window and the subsequent makeup period. The request must include the name of the student, the name of the school, the LEA code, and the name of the test(s) for which the exception is being requested. Medical documents are not included in the request to NCDPI. The request is to be based on information housed at the central office. The student's records must remain confidential. Requests must be

submitted prior to the end of the makeup period for the respective test(s). Requests are to be submitted for consideration by the LEA superintendent or charter.

3.9 Reporting Student Scores

According to APA 16 NCAC 6D .0302 schools systems shall, at the beginning of the school year, provide information to students and parents or guardians advising them of the district-wide and state-mandated tests that students will be required to take during the school year. In addition, school systems shall provide information to students and parents or guardians to advise them of the dates the tests will be administered and how the results from the tests will be used. Also, information provided to parents about the tests shall include whether the State Board of Education or local board of education requires the test. School systems shall report scores resulting from the administration of the district-wide and state-mandated tests to students and parents or guardians along with available score interpretation information within 30 days from the generation of the score at the school system level or receipt of the score and interpretive documentation from the NCDPI.

At the time the scores are reported for tests required for graduation, such as competency tests and the computer skills tests, the school system shall provide information to students and parents or guardians to advise whether or not the student has met the standard for the test. If a student fails to meet the standard for the test, the students and parents or guardians shall be informed of the following at the time of reporting: (1) the date(s) when focused remedial instruction will be available and (2) the date of the next testing opportunity.

3.10 Confidentiality of Student Test Scores

State Board of Education policy states that "any written material containing the identifiable scores of individual students on tests taken pursuant to these rules shall not be disseminated or otherwise made available to the public by any member of the State Board of Education, any employee of the State Board of Education, the State Superintendent of Public Instruction, any employee of the North Carolina Department of Public Instruction, any member of a local board of education, any employee of a local board of education, or any other person, except as permitted under the provisions of the Family Educational Rights and Privacy Act of 1974, 20 U.S.C. § 1232g."

Chapter Four: Scaling and Standard Setting for the *NCEXTEND2* Tests

The ***NCEXTEND2*** Tests scores are reported as scale scores, achievement levels, and percentiles. There are several advantages to using scale scores:

- Scale scores can be used to compare test results when there have been changes in the curriculum and/or changes in the method of testing.
- Scale scores on pretests or released test forms can be related to scale scores used on secure test forms administered at the end of the course.
- Scale scores can be used to compare the results of tests that measure the same content area but are composed of items presented in different formats.
- Scale scores can be used to minimize differences among various forms of the tests.

4.1 Conversion of Test Scores

For the ***NCEXTEND2*** End-of-Grades tests of Reading and Mathematics each student's score is determined by calculating the number of items he or she answered correctly and then converting the sum to a scale score. Items are assigned a score of 0 if the student did not answer the item correctly and a score of 1 if the student did answer the item correctly. The total raw score of number of items correct is then transformed to a modified T-score with a mean of 150 and a standard deviation of 10. The formula for the modified T-score used is:

$$\text{Score} = 150 + 10(z)$$

where

$$z = \frac{X-\mu}{\sigma}$$

where X is the individual's raw score, μ is the group mean, and σ is the standard deviation.

For the ***NCEXTEND2*** OCS Tests of Occupational Math, English and Life Skills Science, each student's score is determined by calculating the number of items he or she answered correctly and then converting the sum to a scale score using the three-parameter IRT model. Items are assigned a score of 0 if the student did not answer the item correctly and a score of 1 if the student did answer the item correctly. Software developed at the L.L. Thurstone Psychometric Laboratory at the University of North Carolina at Chapel Hill converts raw scores (total number of items answered correctly) to scale scores using the three IRT parameter for each item. The software implements the algorithm described by Thissen and Orlando (2001, pp. 119–130).

4.2 Setting the Standards for the *NCEXTEND2* Tests

For tests developed under the North Carolina Testing Program, standard setting or the process of determining "cut scores" for the different achievement levels is typically accomplished through the use of "contrasting groups." Contrasting groups is an examinee-based method of standard setting, which involves categorizing students into the various achievement levels by expert judges who are knowledgeable of students' achievement in various domains outside of the testing situation and then comparing these judgments to students' actual scores. For the North Carolina ***EXTEND2*** Tests, North Carolina teachers were considered to be expert judges under the rationale that teachers were able to make informed judgments about students' achievement because they had observed the breadth and depth of the students' work during the school year.

For the North Carolina ***EXTEND2*** Tests standard setting, approximately 95 percent of the students in each grade who participated in the first operational administration were categorized into one of four achievement levels, with the remainder categorized as "not a clear example of any of the achievement levels." This provided a proportional measure of the students expected to score in each of the four achievement levels. This categorization process occurred during the pilot test administration year so that impact data could be examined prior to SBE approval of cut scores. Cut scores are the scores at which one achievement level ends and the next achievement level begins. Table 10 provides hypothetical percentages of contrasting-groups classifications.

Table 12: Hypothetical percentages of contrasting-groups classifications

Level I	8.22%
Level II	24.96%
Level III	43.60%
Level IV	22.74%
No Clear Category	0.48%

In contrasting-groups standard setting, scores from each grade would be distributed from lowest to highest. This distribution would then be used to set cut scores. For example, if a grade had 100,000 scale scores and those scores were distributed from lowest to highest, one would count up 8,220 (8.22%) scores from the bottom and then locate the cut-off score between Level I and Level II. Counting up the next 24,960 scores would provide the cut-off between Levels II and III. Counting up the next 43,600 scores would provide the cut-off between Levels III and IV. It should be noted that to avoid an inflation of children categorized as Level IV, the percentage categorized as "No Clear Category" were removed from the cut score calculations. This process occurred at each grade for the ***NCEXTEND2*** EOG Tests and also for the ***NCEXTEND2*** EOC Tests. For the ***NCEXTEND2*** EOG Tests, stakeholders and policymakers elected to lower the cut score from what was indicated by the teacher judgments by one-third of a SEM (one raw score point) as a modification to the achievement standards.

More detailed standard setting information is available in a separate report.

4.3 Achievement Level Descriptors

The four achievement levels in the North Carolina Student Accountability System are operationally defined below.

Table 13: Administrative Procedures Act 16 NCAC 6D .0501 (Definitions related to Student Accountability Standards)

Achievement Levels for the North Carolina Testing Program	
Level I	Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level.
Level II	Students performing at this level demonstrate inconsistent mastery of knowledge and skills that are fundamental in this subject area and that are minimally sufficient to be successful at the next grade level.
Level III	Students performing at this level consistently demonstrate mastery of grade-level subject matter and skills and are well prepared for the next grade level.
Level IV	Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade-level work.

4.4 Achievement Level Cut Scores

The achievement level score ranges for the ***NCEXTEND2*** Math Edition 1, Reading Comprehension Edition 1 and Occupational Course of Study Tests are provided below.

Table 14: ***NCEXTEND2*** achievement levels and corresponding scale scores

Grade/Subject	**Level I**	**Level II**	**Level III**	**Level IV**
Reading 3	≤145	146–162	163–172	≥173
Reading 4	≤145	146–161	162–171	≥172
Reading 5	≤144	145–159	160–171	≥172
Reading 6	≤144	145–159	160–173	≥174
Reading 7	≤143	144–159	160–173	≥174
Reading 8	≤143	144–158	159–172	≥173
OCS English I	≤139	140–152	153–160	≥161
Mathematics 3	≤147	148–158	159–167	≥168
Mathematics 4	≤144	145–158	159–171	≥172
Mathematics 5	≤143	144–158	159–170	≥171
Mathematics 6	≤143	144–156	157–174	≥175
Mathematics 7	≤143	144–155	156–177	≥178
Mathematics 8	≤143	144–155	156–172	≥173
OCS Math I	≤139	140–150	151–161	≥162
OCS Science	≤138	139–149	150–158	≥159

4.5 Percentile Ranking

The percentile rank for each scale score is the percentage of scores less than or equal to that score. If the percentile formula is applied to the frequency distribution of scores for grade 3 reading, then a score of 260 would have a percentile rank of 89. Eighty-nine percent of students scored at or below a score of 260. The percentile rank provides information about a student's score on a test relative to other students in the norming year. The percentile ranks are calculated after the first operational year.

Score reports are generated at the local level to depict achievement for individual students, classrooms, schools, and local education agencies. These data can be disaggregated by subgroups of gender and race/ethnicity as well as other demographic variables collected during the test administration. Demographic data are reported on variables such as free/reduced lunch status, LEP status, migrant status, Title I status, disability status, and parents' levels of education. The results are reported in aggregate at the state level usually at the end of June of each year. The NCDPI uses these data for school accountability and to satisfy other federal requirements such as Adequate Yearly Progress (AYP) and federal *No Child Left Behind* mandates.

Chapter Five: Reports

5.1 Use of Test Score Reports Provided by the North Carolina Testing Program

The North Carolina Testing Program provides reports at the student level, school level, and state level. The North Carolina *Testing Code of Ethics* dictates that educators use test scores and reports appropriately. This means that educators recognize that a test score is only one piece of information and must be interpreted together with other scores and indicators. Test data help educators understand educational patterns and practices. Data analysis of test scores for decision-making purposes should be based upon dissagregation of data by student demographics and other student variables as well as an examination of grading practices in relation to test scores, growth trends, and goal summaries for state-mandated tests.

5.2 Reporting by Student

The state provides scoring equipment in each school system so that administrators can score all state-required multiple-choice tests. This scoring generally takes place within two weeks after testing so the individual score report can be given to the student and parent before the end of the school year.

Each student in grades 3–8 who takes the ***NCEXTEND2*** end-of-grade tests is given a "Parent/Teacher Report." This single sheet provides information on that student's performance on the reading and mathematics tests. A flyer titled "Understanding the Individual Student Report for the ***NCEXTEND2*** EOG Grades 3–8" is provided with each "Parent/Teacher Report." This publication offers information for understanding student scores as well as suggestions on what parents and teachers can do to help students in the areas of reading and mathematics.

The student report also shows how that student's performance compared to the average scores for the school, the school system, and the state. A four-level achievement scale is used for the tests:

> Achievement Level I represents insufficient mastery of the subject.
> Achievement Level II is inconsistent mastery of the subject.
> Achievement Level III is consistent mastery and the minimum goal for students.
> Achievement Level IV is superior mastery of the subject.

Students achieving Level III or Level IV are considered to be at or above grade level. Achievement Level III is the level students must score to be considered proficient and to pass to the next grade under state Student Accountability Standards for grades 3, 5, and 8.

5.3 Reporting by School

Since 1997, the student performance on end-of-grade tests for each elementary and middle school has been released by the state through the ABCs School Accountability. High school student performance began to be reported in 1998 in the ABCs School Accountability. For each school, parents and others can see the actual performance for groups of students at the school in reading, mathematics, and writing; the percentage of students tested; whether the school met or exceeded goals that were set for it; and the status designated by the state.

Some schools that do not meet their goals and that have low numbers of students performing at grade level receive help from the state. Other schools, where goals have been reached or exceeded, receive bonuses for the certified staff and teacher assistants in that school. Local school systems received their first results under No Child Left Behind (NCLB) in July 2003 as part of the state's ABCs accountability program. Under NCLB, each school is evaluated according to whether or not it met Adequate Yearly Progress (AYP). AYP is not only a goal for the school overall, but also for each subgroup of students in the school. Every subgroup must meet its goal for the school to meet AYP.

AYP is only one part of the state's ABCs accountability model. Complete ABCs results are released in September and will show how much growth students in every school made as well as the overall percentage of students who are proficient. The ABCs report is available on the Department of Public Instruction web site at http://abcs.ncpublicschools.org/abcs/. School principals also can provide information about the ABC report to parents.

5.4 Reporting by the State

The state reports information on student performance in various ways. The North Carolina Report Cards provide information about K–12 public schools (including charters and alternative schools) for schools, school systems, and the state. Each report card includes a school or district profile and information about student performance, safe schools, access to technology, and teacher quality.

As a participating state in the National Assessment of Educational Progress (NAEP), North Carolina student performance is included in annual reports released nationally on selected subjects. The state also releases state and local SAT scores each summer.

Chapter Six: Descriptive Statistics and Reliability

6.1 Means and Standard Deviations for the First Operational Administration

The first editions of the North Carolina ***EXTEND2*** Reading Comprehension and Mathematics Tests were administered for the first time in the spring of 2006. The first editions of the North Carolina ***EXTEND2*** Occupational English I, Occupational Mathematics I, and Life Skills Science I and II Tests were administered for the first time in the fall of 2006. Descriptive statistics for the first operational year of the ***NCEXTEND2*** EOG Tests of Reading Comprehension and Mathematics and ***NCEXTEND2*** EOG Tests of OCS are provided below along with operational administration population demographics.

Table 15: Descriptive statistics by grade for the first operational administration of the ***NCEXTEND2*** Tests.

Year	Subject/Grade	N students tested	Mean	Standard Deviation
2006	Reading 3	2779	150.0	10.1
2006	Reading 4	2754	150.0	10.0
2006	Reading 5	2794	150.0	10.1
2006	Reading 6	2486	149.9	10.0
2006	Reading 7	2311	150.0	10.2
2006	Reading 8	2290	149.8	10.2
2006–07	OCS English	2671	150.3	9.3
2006	Mathematics 3	2374	149.9	10.1
2006	Mathematics 4	2256	150.0	10.1
2006	Mathematics 5	2288	150.0	10.0
2006	Mathematics 6	2217	150.0	10.0
2006	Mathematics 7	2110	150.1	10.0
2006	Mathematics 8	2129	149.9	10.1
2006–07	OCS Math	2742	150.2	9.1
2006–07	OCS Science	3227	150.0	9.0

6.2 Population Demographics for the First Operational Administration

Table 16: Population demographics for the first operational administration of the ***NCEXTEND2*** Tests.

Grade/ Course	N students tested	Male	Female	Asian	Black	Hispanic	American Indian	White	Multi-Racial
Reading 3	2779	1882	897	19	1112	275	80	1193	100
Reading 4	2754	1922	832	28	1165	328	67	1094	722
Reading 5	2794	1933	861	21	1177	284	82	1149	81
Reading 6	2486	1689	797	19	1118	213	69	1012	55
Reading 7	2311	1567	744	18	1059	163	52	975	44

Reading 8	2290	1539	751	22	1078	160	52	938	40
OCS English	2671	1794	876	16	1422	120	80	989	43
Mathematics 3	2374	1556	818	16	1002	207	56	1003	90
Mathematics 4	2256	1510	746	23	1019	229	55	870	60
Mathematics 5	2288	1532	756	14	1009	191	68	946	60
Mathematics 6	2217	1467	750	17	1016	171	55	908	50
Mathematics 7	2110	1403	707	12	995	133	51	879	40
Mathematics 8	2129	1396	733	22	1014	139	46	870	38
OCS Math I	2742	1835	905	15	1462	130	78	1014	40
OCS Science	3227	2092	1135	12	1740	137	87	1214	44

OCS English I/Math I/Science is Fall 06 and Spring 07 semesters combined

Table 17: Primary exceptionality status demographics for the first operational administration of the ***NCEXTEND2*** Tests.

Subject/ Grade	N students tested	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Reading 3	2779	106	39	883	935	42	8	419	14	13	145	0	12	0	30
Reading 4	2754	89	37	994	954	35	8	340	19	11	134	0	18	1	23
Reading 5	2794	130	42	1022	888	27	6	345	17	12	141	0	27	2	40
Reading 6	2486	92	37	1084	617	17	5	316	9	9	111	0	33	0	48
Reading 7	2311	105	30	1075	562	7	5	284	13	5	89	1	27	0	44
Reading 8	2290	108	28	1051	557	6	6	256	7	15	103	0	20	0	68
OCS English I	2671	146	34	1636	389	6	5	278	5	15	91	0	16	0	27
Mathematics 3	2374	94	36	873	612	37	7	382	16	14	138	0	13	0	30
Mathematics 4	2256	75	31	965	563	28	7	311	22	12	124	0	17	1	23
Mathematics 5	2288	115	35	993	505	22	6	304	19	12	130	0	29	2	40
Mathematics 6	2217	86	28	1064	421	12	5	288	10	9	108	0	33	0	48
Mathematics 7	2110	105	22	1044	414	5	5	266	15	6	89	1	29	0	41
Mathematics 8	2129	101	25	1032	428	4	7	255	8	15	102	0	20	0	69
OCS Math I	2742	159	31	1660	405	4	4	263	10	15	97	0	24	1	32
OCS Science	3227	100	31	1484	338	5	7	227	12	16	96	0	12	3	34

1=Behaviorally-Emotionally Disabled
2= Hearing Impaired
3= Educable Mentally Disabled
4= Specific Learning Disabled
5= Speech-Language Impaired
6=Visually Impaired
7=Other Health Impaired
8= Orthopedically Impaired
9= Traumatic Brain Injured
10= Autistic
11= Severely/Profoundly Mentally Disabled
12= Multihandicapped
13=Deaf-Blind
14= Trainable Mentally Disabled

Table 18: Accommodations used for the first operational administration of the ***NCEXTEND2*** Tests.

Grade/Course	N students tested	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Subject/ Grade																				
Reading/Math 3	2779	0	12	20	0	2	24	10	1	1347	1313	102	1	0	738	1468	1473	2	19	10
Reading/Math 4	2754	2	11	13	0	5	32	12	2	1319	1316	94	2	1	743	1522	1491	5	17	18
Reading/Math 5	2794	1	12	17	0	2	31	18	2	1282	1303	114	1	1	762	1512	1510	5	10	9
Reading/Math 6	2486	0	5	4	0	0	33	12	2	874	1230	50	0	2	510	1323	1232	2	9	5
Reading/Math 7	2311	0	4	4	0	0	16	6	1	664	1122	25	1	1	410	1230	1122	7	4	4
Reading/Math 8	2290	0	4	3	0	0	14	14	0	701	1218	35	0	2	492	1292	1144	8	8	0
OCS English I	2671	1	6	5	1	0	17	30	4	535	1839	54	0	5	142	1567	1609	5	4	0
OCS Math I	2742	2	7	5	0	0	11	19	1	817	2110	54	0	6	277	1739	1842	6	7	3
OCS Science	3227	1	6	5	0	0	17	30	4	535	1839	54	1	5	142	1567	1609	5	4	0

1= Braille Edition
2= Large Print Edition
3= Assistive Technology Devices
4= Braille Writer/State and Stylus (and Braille Paper)
5= Cranmer Abacus
6= Dictation to Scribe
7= Interpreter/Transliterator Signs/cues Test**
8= Magnification Device
9= Student Marks Answer in Test Book
10= Test Administrator Reads Test Aloud (in English)**
11= Student Reads Test Aloud to Self
12= Keyboarding Devices
13= Hospital/Home Testing
14= Multiple Testing Sessions
15= Scheduled Extended Time
16= Testing in a Separate Room
17= English/Native Language Dictionary/Electronic Translator
18= One Test Item Per Page Edition
19= Accommodation Notification Form

**Use of the "Interpreter/Transliterator Signs/Cues Tests" and "Test Administrator Reads Test Aloud (in English)" accommodations during the administration of state tests that measure reading comprehension skills invalidates the results of the test.

6.3 Scale Score Frequency Distributions

The following tables present the frequency distributions of the scale scores from the first statewide operational administration of the Edition 1 North Carolina ***EXTEND2*** Tests.

Figure 3: Scale score frequency distribution for the 2006 Grade 3 ***NCEXTEND2*** Reading Comprehension Test

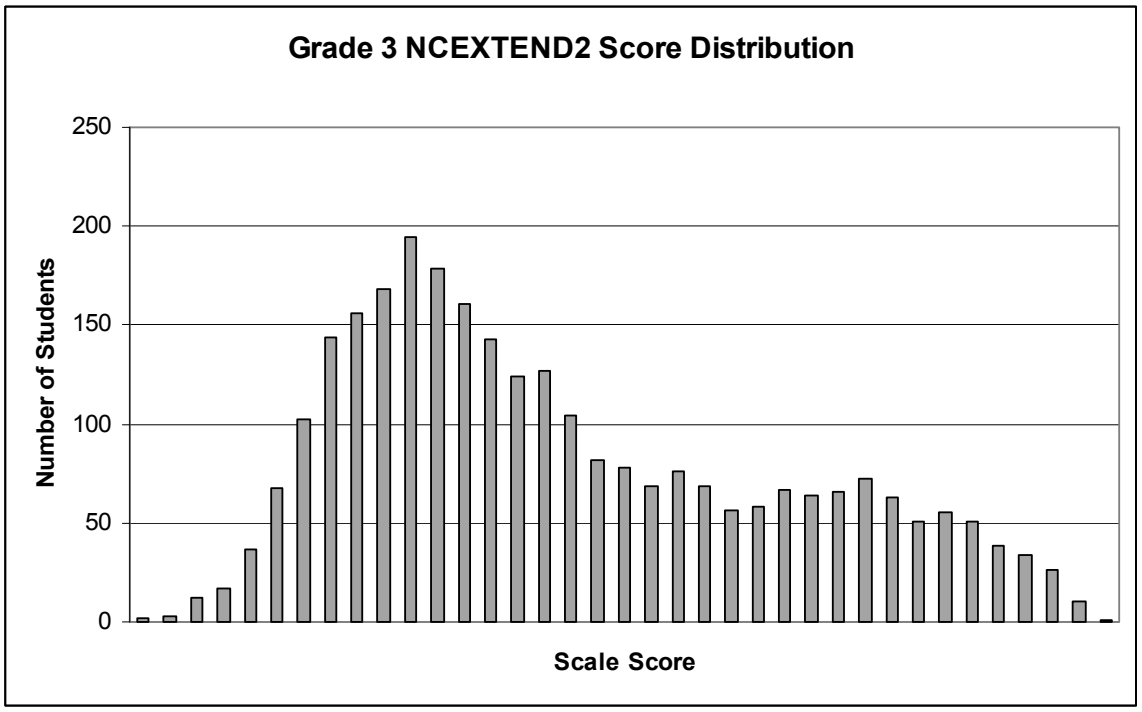


Figure 4: Scale score frequency distribution for the 2006 Grade 4 ***NCEXTEND2*** Reading Comprehension Test

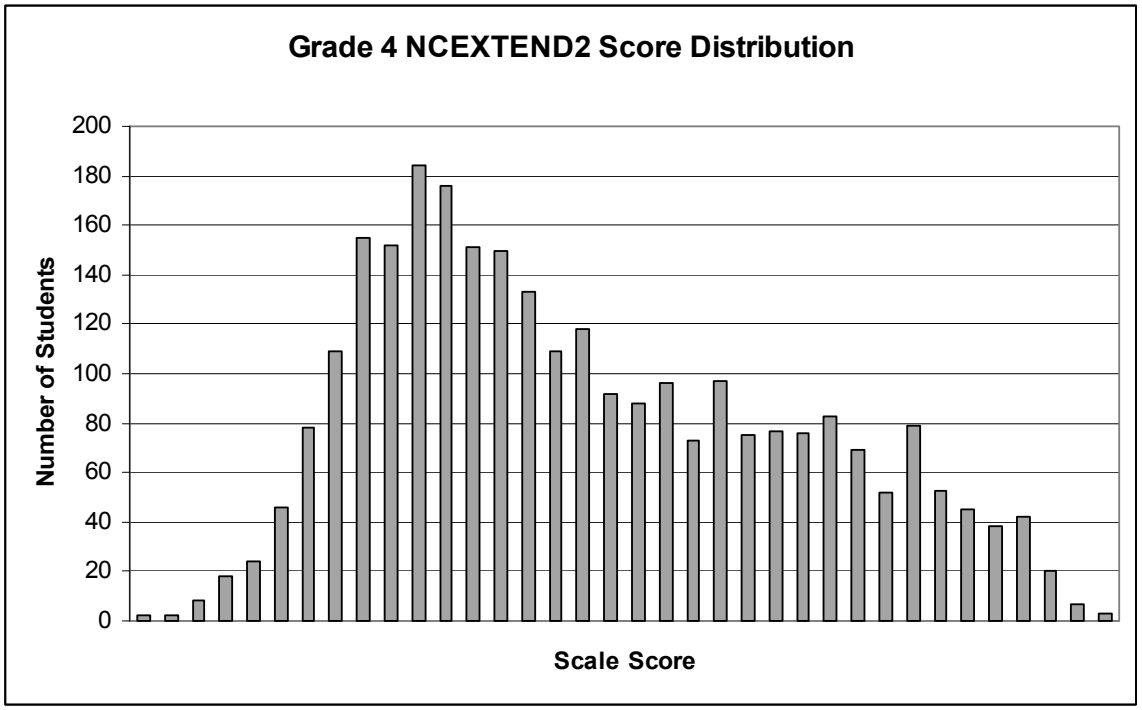


Figure 5: Scale score frequency distribution for the 2006 Grade 5 *NCEXTEND2* Reading Comprehension Test

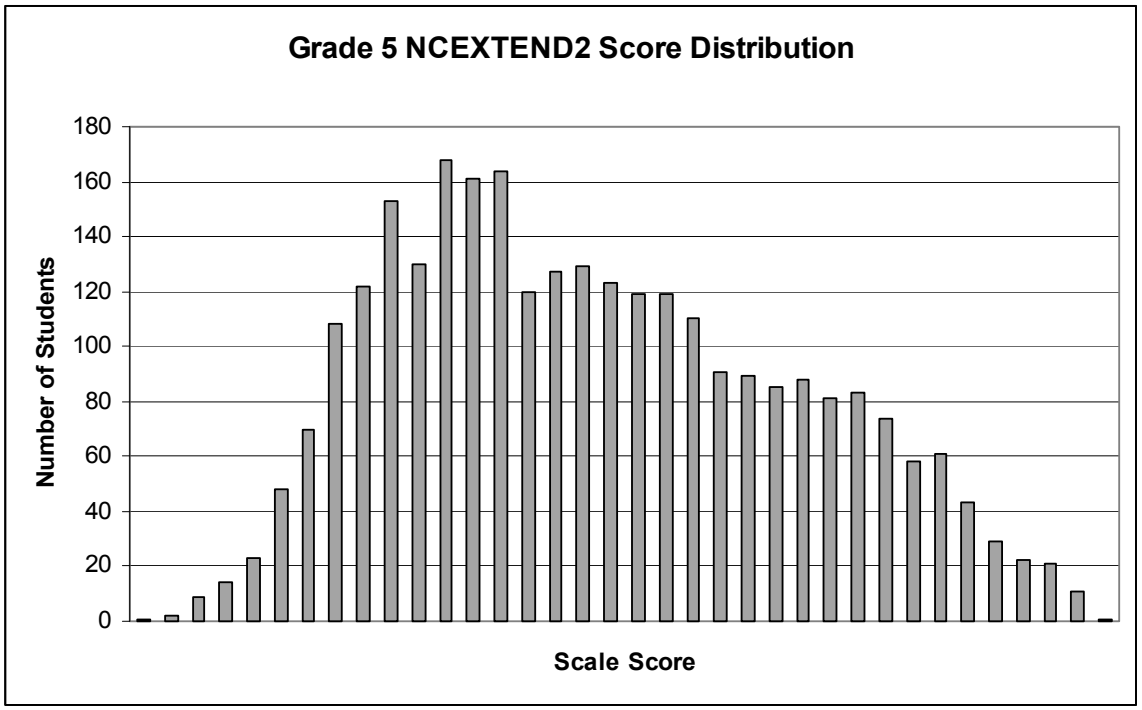


Figure 6: Scale score frequency distribution for the 2006 Grade 6 ***NCEXTEND2*** Reading Comprehension Test

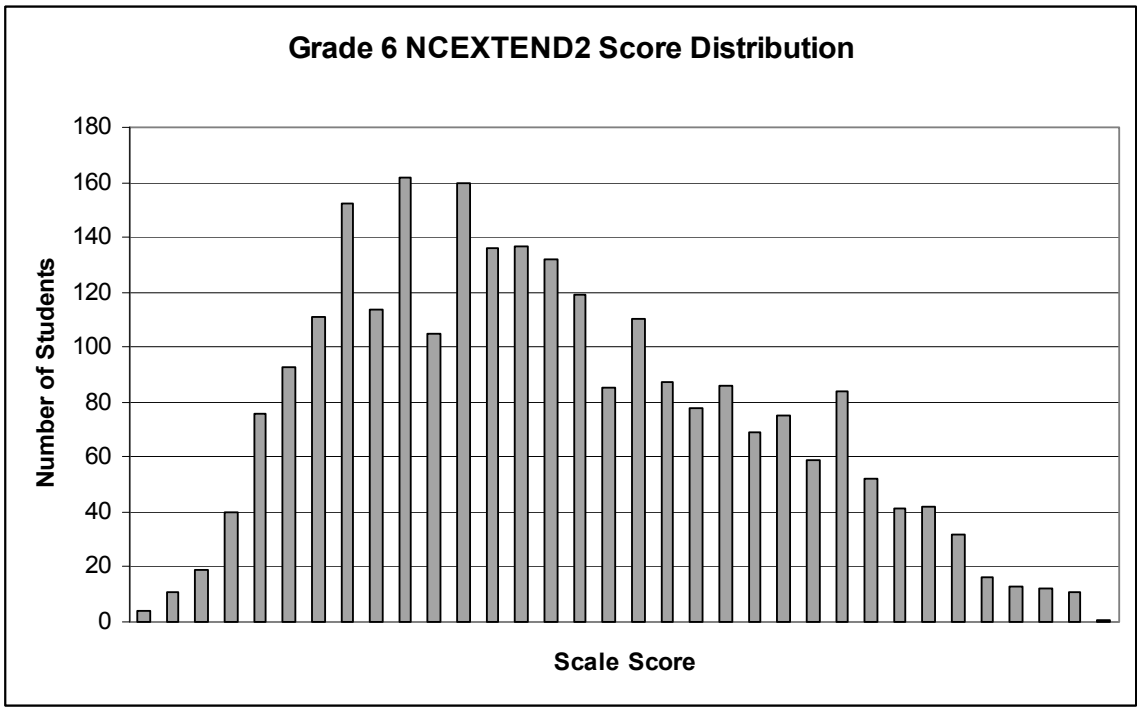


Figure 7: Scale score frequency distribution for the 2006 Grade 7 ***NCEXTEND2*** Reading Comprehension Test

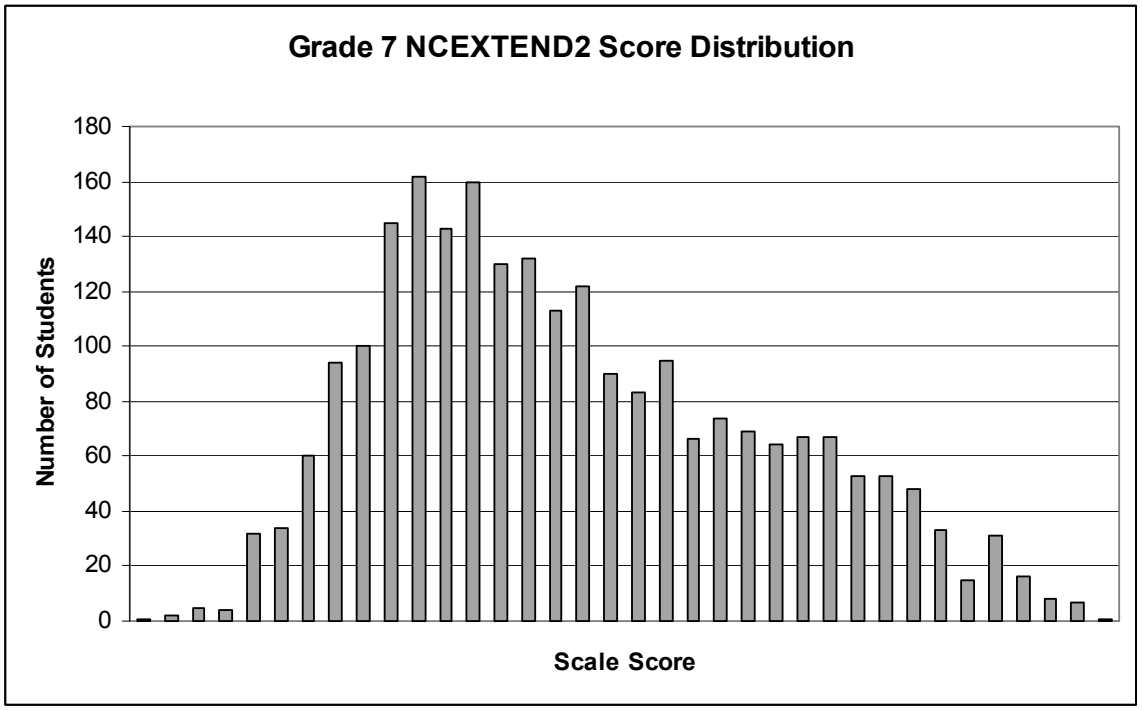


Figure 8: Scale score frequency distribution for the 2006 Grade 8 ***NCEXTEND2*** Reading Comprehension Test

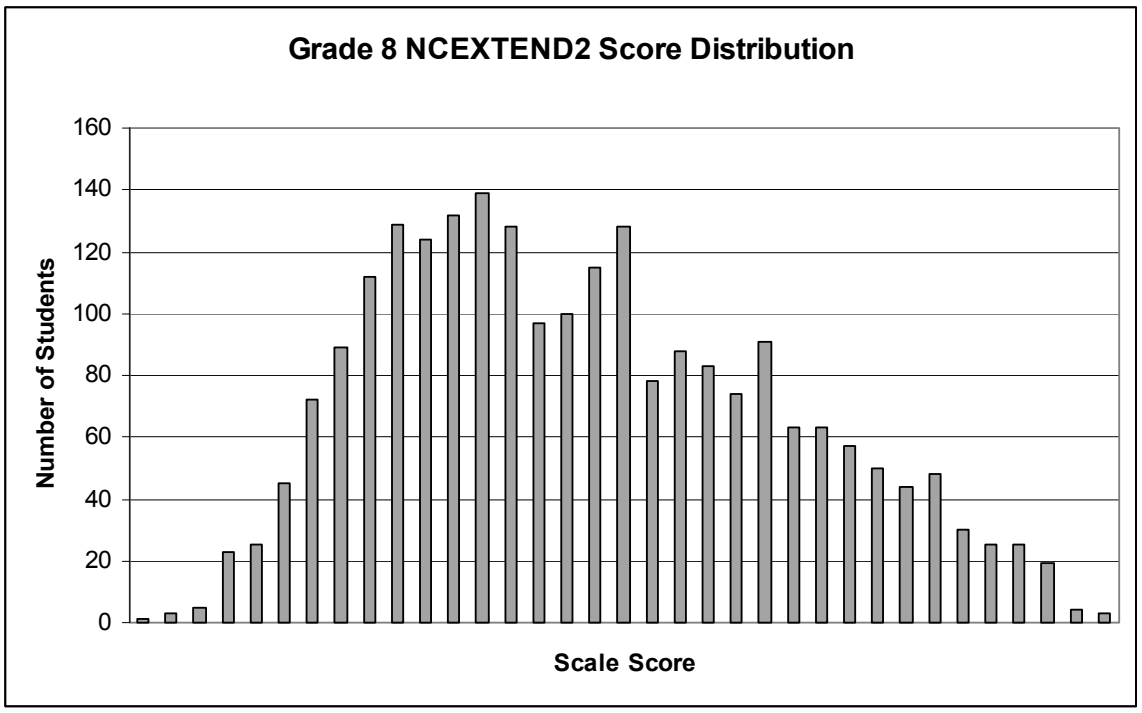


Figure 9: Scale score frequency distribution for the ***NCEXTEND2*** Reading Test Occupational Course of Study English I test on Full Year 06–07 administrations.

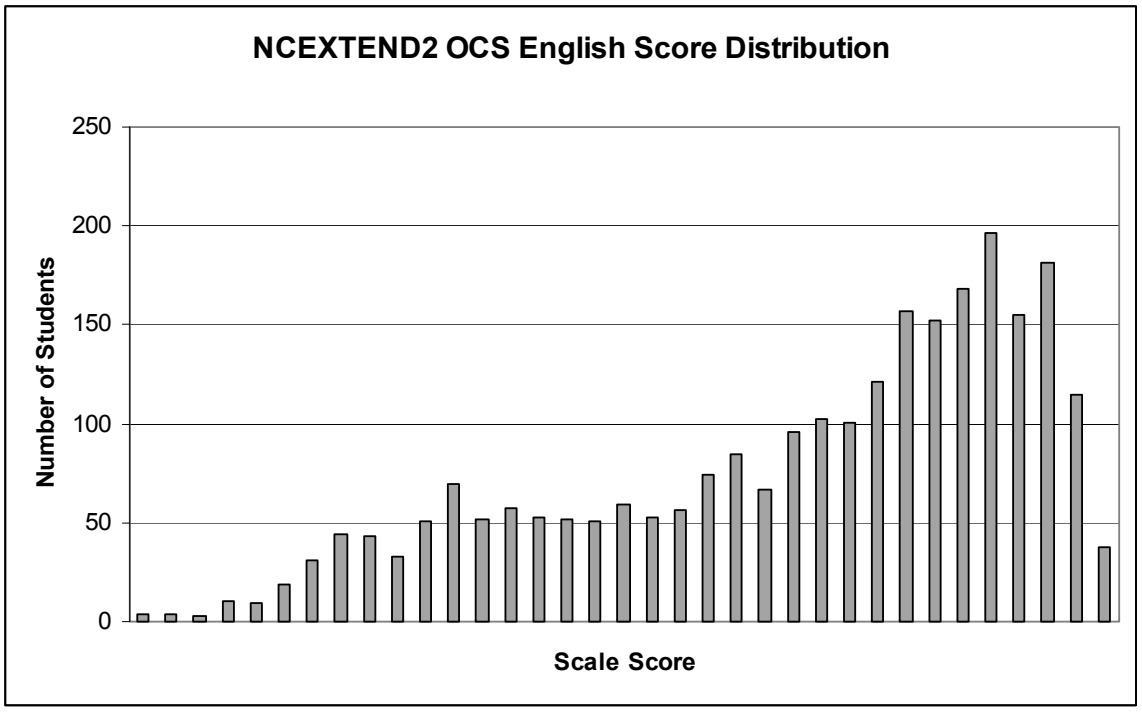


Figure 10: Scale score frequency distribution for the 2006 Grade 3 ***NCEXTEND2*** Mathematics Test.

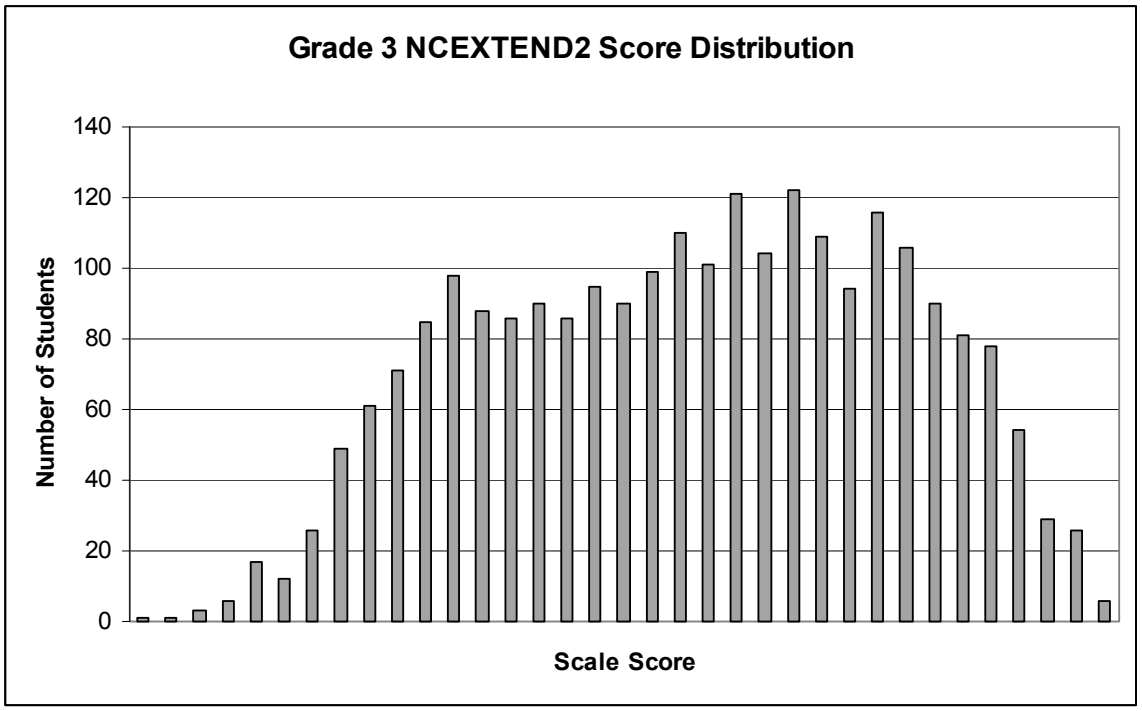


Figure 11: Scale score frequency distribution for the 2006 Grade 4 ***NCEXTEND2*** Mathematics Test.

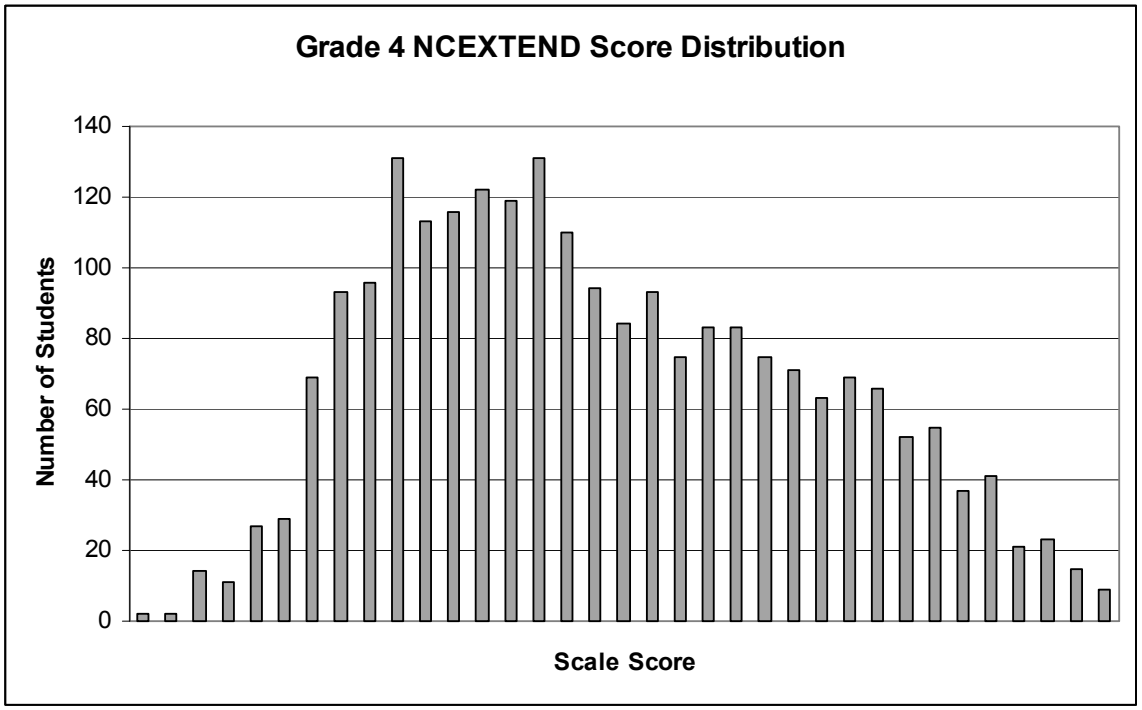


Figure 12: Scale score frequency distribution for the 2006 Grade 5 ***NCEXTEND2*** Mathematics Test.

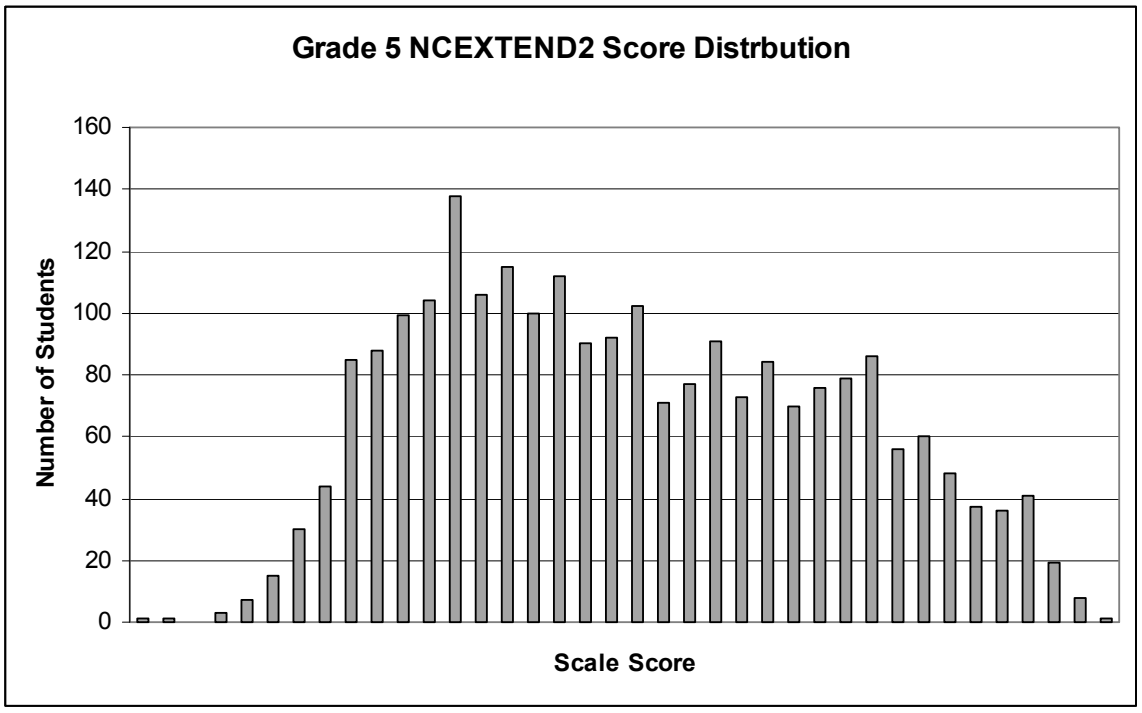


Figure 13: Scale score frequency distribution for the 2006 Grade 6 ***NCEXTEND2*** Mathematics Test.

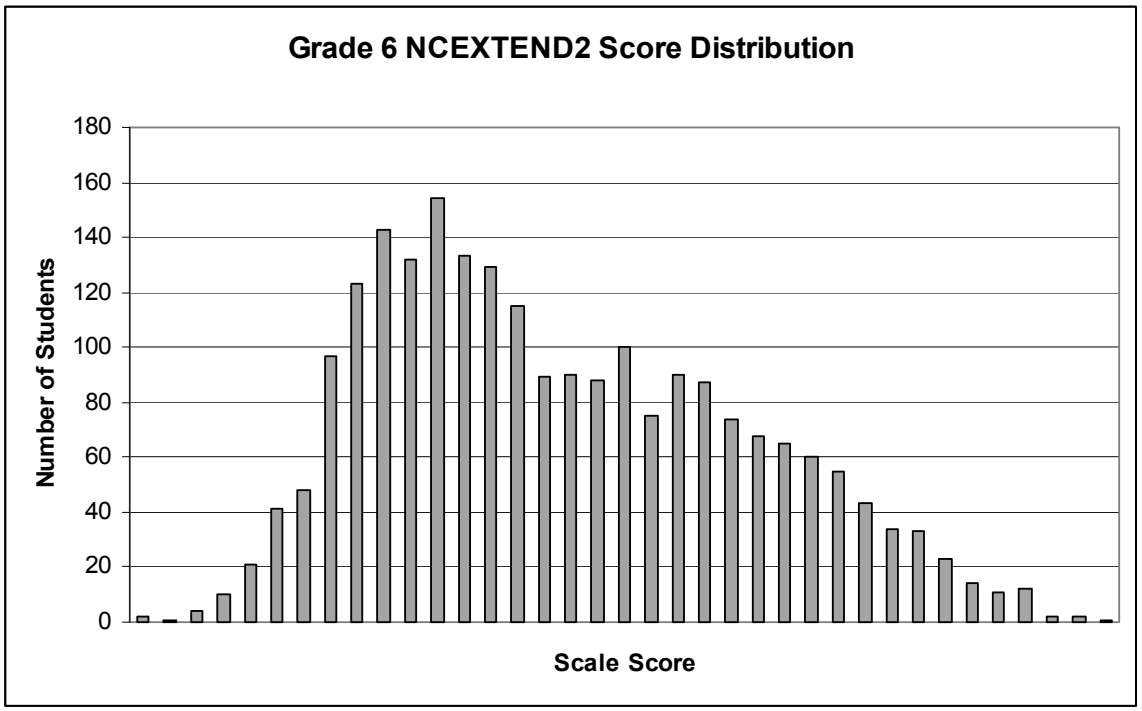


Figure 14: Scale score frequency distribution for the 2006 Grade 7 ***NCEXTEND2*** Mathematics Test.

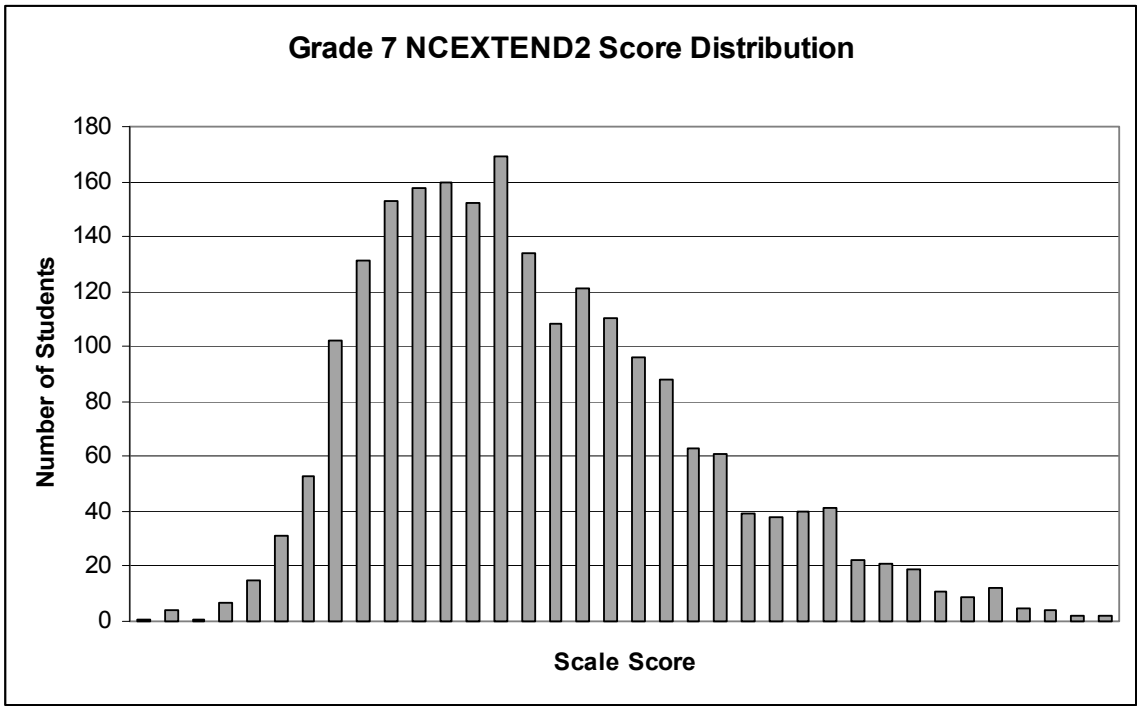


Figure 15: Scale score frequency distribution for the 2006 Grade 8 ***NCEXTEND2*** Mathematics Test.

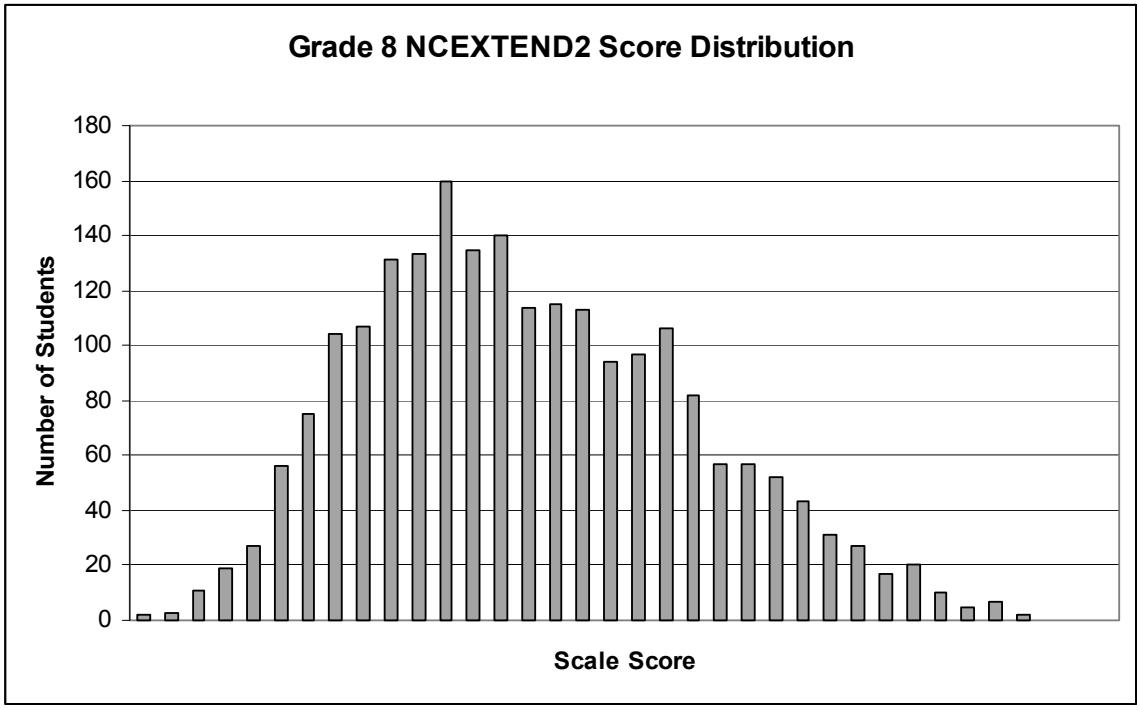


Figure 16: Scale score frequency distribution for the Occupational Course of Study Occupational Mathematics I test on Full Year 06–07 administrations.

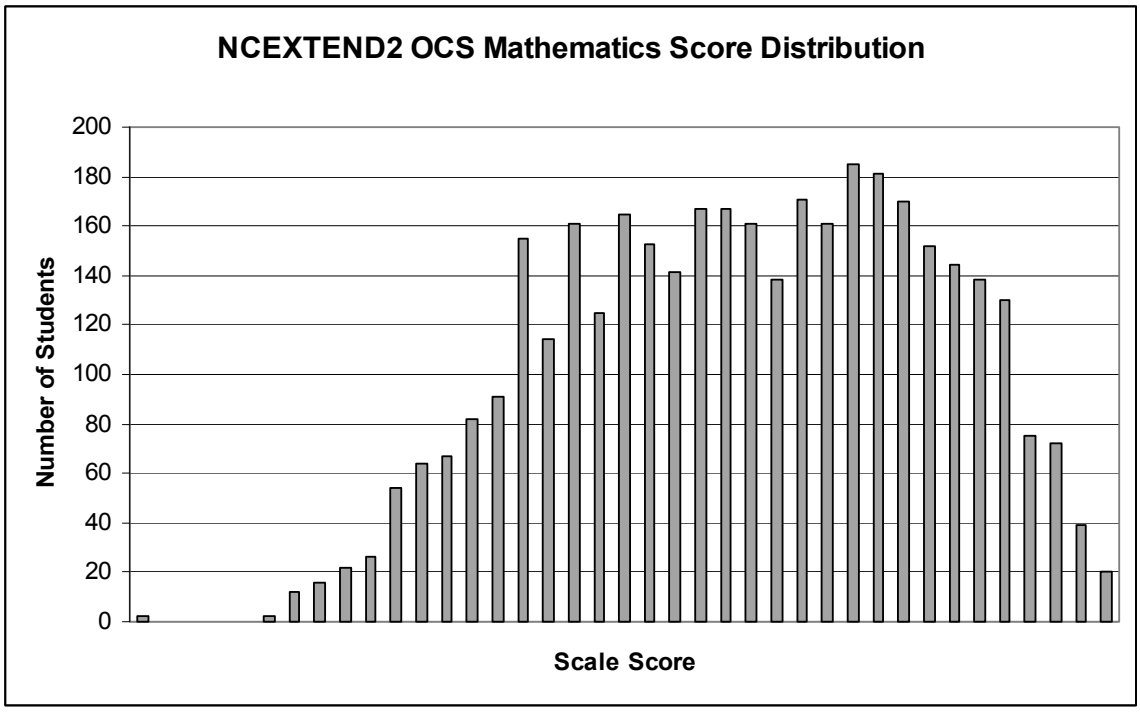
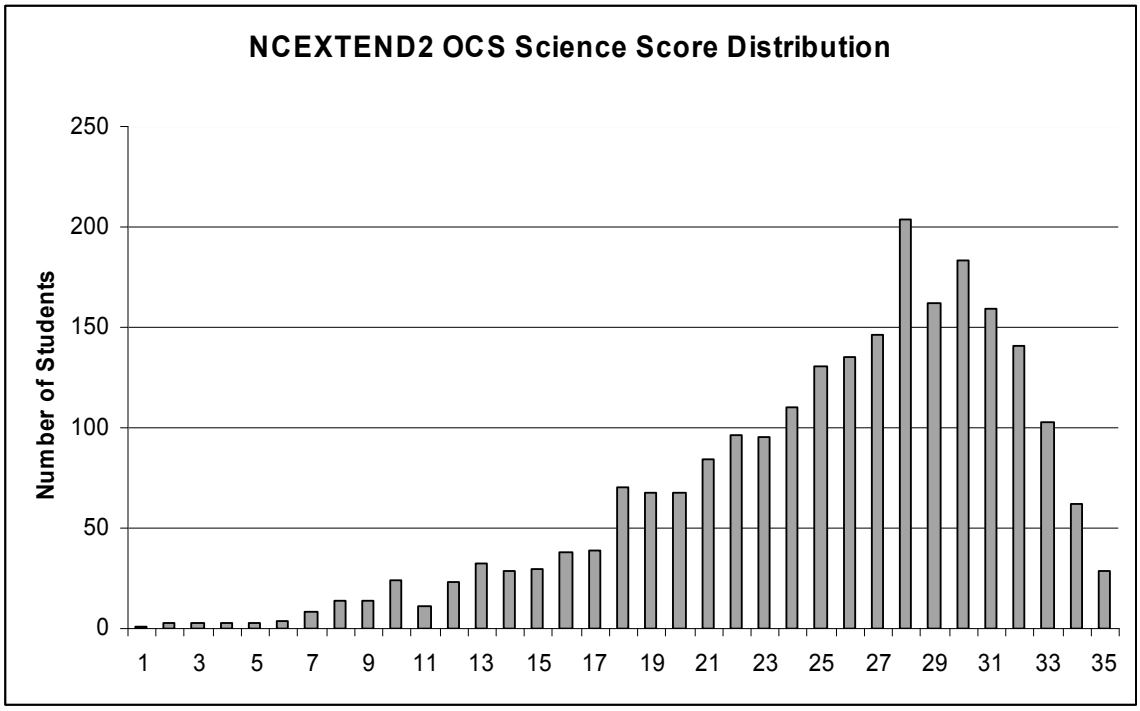


Figure 17: Scale score frequency distribution for the Occupational Course of Study Occupational Life Skills Science I and II test on Full Year 06–07 administrations.



6.4 Reliability of the North Carolina Reading Tests

Reliability refers to the consistency of a measure when the testing procedure is repeated on a population of individuals or groups. Three broad categories of reliability coefficients are recognized as appropriate indices for establishing reliability in tests: (a) coefficients derived from the administration of parallel forms in independent testing sessions (alternate-form coefficients); (b) coefficients obtained by administration of the same instrument on separate occasions (test-retest or stability coefficients); and (c) coefficients based on the relationships among scores derived from individual items or subsets of the items within a test, all data accruing from a single administration of the test. The last coefficient, commonly known as the internal consistency coefficient (*Standards for Educational and Psychological Testing,* AERA, APA, NCME, 1985, p.27), is the coefficient used to establish reliability for the North Carolina ***EXTEND2*** Tests.

6.5 Internal Consistency of the North Carolina Reading Tests

Internal-consistency reliability estimates examine the extent to which the test measures a single basic concept. Internal-consistency reliability estimates examine the extent to which the test measures a single basic concept. One procedure for determining the internal consistency of a test is coefficient alpha (α). Coefficient alpha sets an upper limit to the reliability of tests constructed in terms of the domain sampling model. The formula for coefficient alpha is:

$$r_{xx} = \left(\frac{N}{N - 1}\right)\left(\frac{S^2 - \sum s^2}{S^2}\right)$$

$$r_{xx} = \left(\frac{N}{N - 1}\right)\left(\frac{S^2 - \sum s^2}{S^2}\right)$$

where

r_{xx} = coefficient alpha

N = Number of items constituting the instrument

S^2 = Variance of the summated scale scores

Σs^2_i = The sum of the variances of the individual items that constitute this scale (Hatcher & Stepanski, 1994, *Using SAS System for Univariate and Multivariate Statistics*).

If any use is to be made of the information from a test, then test results must be reliable. The North Carolina Testing Program follows industry standards and strives to maintains reliability coefficient of at least 0.85 on the multiple-choice tests.

The following table presents the coefficient alpha indices averaged across forms by grade.

Table 19: Reliability indices for the first operational year ***NCEXTEND2*** Tests.

Subject/ Grade	Coefficient Alpha
Reading 3	0.87
Reading 4	0.85
Reading 5	0.84
Reading 6	0.83
Reading 7	0.83
Reading 8	0.83
OCS Occupational English I	0.90
Mathematics 3	0.86
Mathematics 4	0.85
Mathematics 5	0.87
Mathematics 6	0.83
Mathematics 7	0.76
Mathematics 8	0.76
OCS Occupational Math I	0.86
OCS Occupational Life Skills Science	0.85

As noted above, the ***NCEXTEND2*** Tests of Reading Comprehension and Mathematics are reasonably reliable as a whole. In general the ***NCEXTEND2*** Tests of Reading Comprehension and Mathematics are less reliable than the general EOG Tests of Reading Comprehension and Mathematics. However, given the reduced number of items on the ***NCEXTEND2*** Tests of Reading Comprehension and Mathematics and the population of students assessed, this result is not surprising.

It is important to note that a similar degree of reliability extends across gender, ethnicity, primary language, and disability. The following tables provide a breakdown of coefficient alphas by grade and group for the tests given operationally during the 2005–06 school year.

Table 20: Reliability indexes for 2005–06 operational year by gender

Subject/ Grade	Females	Males
Reading 3	0.87	0.87
Reading 4	0.85	0.85
Reading 5	0.83	0.83
Reading 6	0.82	0.83
Reading 7	0.81	0.83
Reading 8	0.82	0.83

OCS Occupational English I	0.89	0.90
Mathematics 3	0.84	0.86
Mathematics 4	0.85	0.86
Mathematics 5	0.86	0.87
Mathematics 6	0.80	0.81
Mathematics 7	0.72	0.77
Mathematics 8	0.69	0.75
OCS Occupational Math I	0.85	0.87
OCS Life Skills Science	0.82	.86

Table 21: Reliability indexes for 2005–06 operational year by ethnicity

Grade	Asian	Black	Hispanic	Native Amer	Multi	White
Reading 3	0.86	0.85	0.82	0.87	0.88	0.89
Reading 4	0.79	0.84	0.79	0.77	0.83	0.87
Reading 5	0.75	0.81	0.76	0.84	0.82	0.86
Reading 6	0.75	0.82	0.80	0.87	0.83	0.83
Reading 7	0.82	0.79	0.81	0.86	0.82	0.85
Reading 8	0.82	0.80	0.82	0.88	0.81	0.85
OCS Occ English I	0.91	0.90	0.91	0.90	0.91	0.91
Mathematics 3	0.78	0.83	0.87	0.77	0.86	0.87
Mathematics 4	0.89	0.83	0.84	0.84	0.87	0.88
Mathematics 5	0.93	0.85	0.88	0.87	0.88	0.88
Mathematics 6	0.88	0.79	0.81	0.88	0.85	0.82
Mathematics 7	0.62	0.73	0.75	0.83	0.79	0.77
Mathematics 8	0.79	0.70	0.75	0.77	0.80	0.76
OCS Occ Math I	0.86	0.85	0.87	0.88	0.81	0.88
OCS Life Skills Science	.84	.83	.87	.82	.85	.86

6.6 Standard Error of Measurement

The information provided by the standard error of measurement for a given score is important because it assists in determining the accuracy of an examinee's obtained score. It allows a probabilistic statement to be made about an individual's test score. For example, if a score of 100 has an SEM of plus or minus two, then one can conclude that a student obtained a score of 100, which is accurate within plus or minus 2 points with a 68% confidence. In other words, a 68% confidence interval for a score of 100 is 98–102. If that student were to be retested, his or her score would be expected to be in the range of 98–102 about 68% of the time.

The classical standard errors of measurement (SEM) for raw scores on the ***NCEXTEND2*** Tests are provided below.

Table 22: Classical standard error of measurement by grade.

Grade/Subject	Standard Error of Measurement
Reading 3	2.8913
Reading 4	2.8775
Reading 5	2.8714
Reading 6	2.8908
Reading 7	2.8906
Reading 8	2.9092
OCS English I	2.5166
Mathematics 3	2.6684
Mathematics 4	2.8283
Mathematics 5	2.8124
Mathematics 6	2.8501
Mathematics 7	2.8639
Mathematics 8	2.9254
OCS Mathematics I	2.7415
OCS Science I and II	2.4767

Chapter Seven: Evidence of Validity

7.1 Evidence of Validity

The validity of a test is the degree to which evidence and theory support the interpretation of test scores. Validity provides a check on how well a test fulfills its function. For all forms of test development, the validity of the test is an issue to be addressed from the first stage of development through analysis and reporting of scores. The process of validation involves accumulating evidence to provide a sound scientific basis for the proposed test score interpretations. Those interpretations of test scores are evaluated rather than the test itself. Validation, when possible, should include several types of evidence and the quality of the evidence is of primary importance (AERA, APA, NCME, 1985). For the North Carolina EOG and EOC ***EXTEND2***, evidence of validity is provided through content relevance, response processes, relationship of test scores to other external variables, and consistency in the testing environment.

7.2 Content Validity

Evidence of content validity begins with an explicit statement of the constructs or concepts being measured by the proposed test. Interpretation of test scores refers to constructs or concepts the test is proposed to measure. The constructs or concepts measured by the EOG ***NCEXTEND2*** Tests of Reading Comprehension have four basic strands: cognition, interpretation, critical stance, and connections.

All items developed for the ***NCEXTEND2*** EOG are intended to measure those concepts , including assessing students' ability to process information and engage in higher-order thinking. The purpose of the test specification summary is to show the distribution of items across the curriculum. For test specification summaries, see Appendix B.

Content validity is further evidenced through the item development process. Almost all of the items are written by North Carolina teachers and other educators. For the OCS tests, all of the items are written by North Carolina teachers and other educators . Some of the reading comprehension items were written under a contract with a North Carolina-based testing company to handle logistics, but that contract specified that at least half of the items be written by teachers from North Carolina. Additionally, the items were all reviewed by North Carolina teachers. Many of the items on EOG tests were unused items from the general assessment that were previously written and reviewed by North Carolina teachers and then revised by content and curriculum experts to simply language and reduce the number of foils.

7.3 Instructional Validity

As a part of the test review process, DPI routinely administers questionnaires to teachers in order to evaluate the validity and appropriateness of the North Carolina EOG Tests of Reading Comprehension and English I. Teachers are asked to evaluate statements using a five-point scale with the highest rating being "to a superior degree" and the lowest score being "not at all." The statements for Grade 3 Mathematics are provided as examples.

1. The test content reflects the goals and the objectives of the Grade 3 Mathematics curriculum as outlined on the enclosed list of Grade 3 Mathematics objectives.

2. The test content reflects the goals and the objectives of the Grade 3 Mathematics curriculum as Grade 3 Mathematics is taught in my school or school system.

3. The items are clearly and concisely written, and the vocabulary is appropriate to the target age level.

4. The content is balanced in relation to ethnicity, race, sex, socioeconomic status, and geographic district of the state.

5. Each of the items has one and only one answer that is best; however, the distracters appear plausible for someone who has not achieved mastery of the represented objective.

The teacher responses for the ***NCEXTEND2*** EOG tests and the EOC Tests are provided in the tables below.

Table 23: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Reading Comprehension Grade 3

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	83.3	100	6
2	100	100	6
3	100	100	6
4	66.7	100	6
5	66.7	100	6

Table 24: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Reading Comprehension Grade 4

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	87.5	100	8
2	100	100	8
3	62.5	100	8
4	87.5	100	8
5	75	87.5	8

Table 25: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Reading Comprehension Grade 5

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	83.3	100	6
2	100	100	6
3	66.7	100	6
4	50	100	6
5	50	100	6

Table 26: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Reading Comprehension Grade 6

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	100	100	6
2	100	100	6
3	50	100	6
4	66.7	100	6
5	50	100	6

Table 27: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Reading Comprehension Grade 7

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	100	100	7
2	100	100	7
3	20	100	5
4	60	80	5
5	33.3	100	6

Table 28: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Reading Comprehension Grade 8

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	100	100	6
2	100	100	6
3	20	100	5
4	66.7	100	6
5	100	100	6

Table 29: Instructional Validity of the content of the ***NCEXTEND2*** EOC Test of Occupational English I

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	90	100	20
2	90	95	20
3	47.3	94.7	19
4	80	90	20
5	90	100	20

The teacher responses for the ***NCEXTEND2*** EOG Mathematics tests and the EOC Test of Occupational Mathematics I are provided in the tables below.

Table 30: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Mathematics Grade 3

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	57.1	100	7
2	71.4	100	7
3	57.1	100	7
4	71.4	100	7
5	28.6	100	7

Table 31: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Mathematics Grade 4

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	88.9	100	9
2	77.8	100	9
3	77.8	100	9
4	50	100	8
5	75	100	8

Table 32: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Mathematics Grade 5

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	66.7	83.3	6
2	83.3	100	6
3	100	100	6
4	40	100	5
5	100	100	5

Table 33: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Mathematics Grade 6

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	57.1	71.4	7
2	57.1	85.7	7
3	57.1	100	7
4	57.1	100	7
5	42.9	100	7

Table 34: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Mathematics Grade 7

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	62.5	75	8
2	57.1	85.7	7
3	71.4	100	7
4	50	100	8
5	37.5	85.7	8

Table 35: Instructional Validity of the content of the ***NCEXTEND2*** EOG Test of Mathematics Grade 8

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	100	100	6
2	57.1	85.7	7
3	100	100	5
4	66.7	100	6
5	66.7	100	6

Table 36: Instructional Validity of the content of the ***NCEXTEND2*** EOC Test Occupational Mathematics I

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	76.9	100	13
2	85.7	100	14
3	78.6	100	14
4	92.9	100	14
5	92.9	100	13

Table 37: Instructional Validity of the content of the ***NCEXTEND2*** EOC Test Occupational Life Skills Science

Statement	% indicating to a superior or high degree	% indicating to a superior, high, or average degree	total N responses
1	90	100	10
2	60	90	10
3	60	100	10
4	90	100	10
5	83.3	100	12

7.4 Criterion-Related Validity

Analysis of the relationship of test scores to variables external to the test provide another important source of validity evidence. External variables may include measures of some criteria that the test is expected to predict, as well as relationships to other tests hypothesized to measure the same constructs.

Criterion-related validity of a test indicates the effectiveness of a test in predicting an individual's behavior in a specific situation. The criterion for evaluating the performance of a test can be measured at the same time (concurrent validity) or at some later time (predictive validity). For the ***NCEXTEND2***, teachers' judgments of student achievement, expected grade, and assigned achievement levels all serve as sources of evidence of concurrent validity. The Pearson correlation coefficient is used to provide a measure of association between the scale score and those variables listed above. The correlation coefficients for the ***NCEXTEND2*** range from 0.30 to 0.42, indicating a moderate to strong correlation between scale scores and external variables.

**Note: By comparison, the uncorrected correlation coefficient between SAT score and freshman year grades in college is variously reported as 0.35 to 0.55 (Camera & Echternacht, 2000).*

Table 38: Pearson Correlation Coefficients for the ***NCEXTEND2*** Reading Comprehension Tests (Grades 3-8) and ***NCEXTEND2*** Occupational English I Test.

Variables	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	OCS
Teacher Judgment of Achievement by Scale Score	0.42	0.36	0.36	0.39	0.33	0.30	0.34

Table 39: Pearson Correlation Coefficients for the ***NCEXTEND2*** Mathematics Tests (Grades 3-8) and ***NCEXTEND2*** Occupational Mathematics I Test.

Variables	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	OCS
Teacher Judgment of Achievement by Scale Score	0.42	0.38	0.38	0.41	0.32	0.33	0.17

Table 40: Pearson Correlation Coefficients for the ***NCEXTEND2*** Mathematics Tests (Grades 3-8) and ***NCEXTEND2*** Occupational Science Test.

Variables	OCS
Teacher Judgment of Achievement by Scale Score	0.32

The variables used in the tables above are as follows.

- **Teacher Judgment of Achievement**: Teachers were asked, for each student participating in the test, to evaluate the student's absolute ability, external to the test, based on their knowledge of their student's achievement. The categories that teachers could use correspond to the achievement level descriptors mentioned previously on page 52.
- **Scale Score**: The converted raw-score-to-scale-score value obtained by each examinee.

DPI found moderate to strong correlations between ***NCEXTEND2*** scale scores and teachers' judgment of student achievement. The department also found generally low correlations among these scale scores and variables external to the test such as gender, and disability.

Table 41: Tetrachoric Correlation Coefficients for the ***NCEXTEND2*** Reading Comprehension Tests (Grades 3-8) and ***NCEXTEND2*** Occupational English I Test.

	Score						
Variables	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**OCS**
Gender	-0.048	-0.049	-0.096	-0.1350	-0.073	-0.071	-0.061
Disability	0.125	0.114	0.144	0.1109	0.167	0.141	0.121

Table 42: Tetrachoric Correlation Coefficients for the ***NCEXTEND2*** Mathematics Tests (Grades 3-8) and ***NCEXTEND2*** Occupational Mathematics I Test.

	Score						
Variables	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**	**OCS**
Gender	0.114	0.026	0.068	-0.024	0.049	0.075	0.047
Disability	0.235	0.222	0.218	0.141	0.156	0.150	0.203

Chapter Eight: Quality Control Procedures

Quality control procedures for the North Carolina testing program are implemented throughout all stages of testing. This includes quality control for test development, test administration, score analysis, and reporting.

8.1 Quality Control Prior to Test Administration

Once test forms have been assembled, they are reviewed by a panel of subject experts. Once the review panel has approved a test form, test forms are then configured to go through the printing process. Printers send a blue-lined form back to NCDPI Test Development staff to review and adjust if necessary. Once all test answer sheets and booklets are printed, the test project manager conducts a spot check of test booklets to ensure that all test pages are included and test items are in order.

8.2 Quality Control in Data Preparation and Test Administration

Student background information must be coded before testing begins. The school system may elect to either: (1) pre-code the answer sheets, (2) direct the test administrator to code the Student Background Information, or (3) direct the students to code the Student Background Information. For the North Carolina multiple-choice tests, the school system may elect to pre-code some or all of the Student Background Information on SIDE 1 of the printed multiple-choice answer sheet. The pre-coded responses come from the schools' SIMS/NCWISE database. Pre-coded answer sheets provide schools with the opportunity to correct or update information in the SIMS/NCWISE database. In such cases, the test administrator ensures that the pre-coded information is accurate. The test administrator must know what information will be pre-coded on the student answer sheets to prepare for the test administration. Directions for instructing students to check the accuracy of these responses are located in test administrator manuals. All corrections for pre-coded responses are provided to a person designated by the school system test coordinator to make such corrections. The students and the test administrator must not change, alter, or erase pre-coding on students' answer sheets. To ensure that all students participate in the required tests and to eliminate duplications, students, regardless of whether they take the multiple-choice test or an alternate assessment, are required to complete the student background information on the answer sheets.

When tests and answer sheets are received by the local schools, they are kept in a locked, secure location. Class rosters are reviewed for accuracy by the test administrator to ensure that students receive their answer sheets. During test administration at the school level, proctors and test administrators circulate throughout the test facility (typically a classroom) to ensure that students are using the bubble sheets correctly. Once students have completed their tests, answer sheets are reviewed and, where appropriate, cleaned by local test coordinators (removal of stray marks, etc.).

8.3 Quality Control in Data Input

All answer sheets are then sent from individual schools to the Local Test Coordinator, where they are scanned in a secure facility. The use of a scanner provides the opportunity to program in a number of quality control mechanisms to ensure that errors overlooked in the manual check of data are identified and resolved. For example, if the answer sheet is unreadable by the scanner, the scanner stops the scan process until the error is resolved. In addition, if a student bubbles in two answers for the same question, the scan records the student's answer as a (*) indicating that the student has answered twice.

8.4 Quality Control of Test Scores

Once all tests are scanned, they are then sent through a secure system to the Regional Accountability Coordinators who checks to ensure that all schools in all LEAs have completed and returned student test scores. The Regional Accountability Coordinators also conduct a spot check of data and then send the data through a secure server to the North Carolina Department of Public Instruction Division of Accountability. Data are then imported into a file and cleaned. When a portion of the data are in, NCDPI runs a CHECK KEYS program to flag areas where answer keys may need second check. In addition, as data come into the NCDPI Division of Accountability Services, Reporting Section staff import and clean data to ensure that individual student files are complete.

8.5 Quality Control in Reporting

Scores can only be reported at the school level after NCDPI issues a certification statement. This is to ensure that school, district, and state-level quality control procedures have been employed. The certification statement is issued by the NCDPI Division of Accountability. The following certification statement is an example:

"The department hereby certifies the accuracy of the data from the North Carolina end-of-course tests for Fall 2004 provided that all NCDPI-directed test administration guidelines, rules, procedures, and policies have been followed at the district and schools in conducting proper test administrations and in the generation of the data. The LEAs may generate the required reports for the end-of-course tests as this completes the certification process for the EOC tests for the Fall 2004 semester."

Glossary of Key Terms

The terms below are defined by their application in this document and their common uses in the North Carolina Testing Program. Some of the terms refer to complex statistical procedures used in the process of test development. In an effort to avoid the use of excessive technical jargon, definitions have been simplified; however, they should not be considered exhaustive.

Accommodations		Changes made in the format or administration of the test to provide options to test takers who are unable to take the original test under standard test conditions.
Achievement Levels		Descriptions of a test taker's competency in a particular area of knowledge or skill, usually defined as ordered categories on a continuum classified by broad ranges of performance.
Biserial correlation		The relationship between an item score (right or wrong) and a total test score.
Cut Scores		A specific point on a score scale, such that scores at or above that point are interpreted or acted upon differently from scores below that point.
Dimensionality		The extent to which a test item measures more than one ability.
Embedded test model		Using an operational test to field test new items or sections. The new items or sections are "embedded" into the new test and appear to examinees as being indistinguishable from the operational test.
Equivalent Forms		Statistically insignificant differences between forms (i.e., the red form is not harder).
Field Test		A collection of items to approximate how a test form will work. Statistics produced will be used in interpreting item behavior/performance and allow for the calibration of item parameters used in equating tests.
Foil counts		Number of examinees that endorse each foil (e.g. number who answer "A," number who answer "B," etc.).

Item response theory		A method of test item analysis that takes into account the ability of the examinee and determines characteristics of the item relative to other items in the test. The NCDPI uses the 3-parameter model, which provides slope, threshold, and asymptote.
Item Tryout		A collection of a limited number of items of a new type, a new format, or a new curriculum. Only a few forms are assembled to determine the performance of new items and not all objectives are tested.
Mantel-Haenszel		A statistical procedure that examines the differential item functioning (DIF) or the relationship between a score on an item and the different groups answering the item (e.g. gender, race). This procedure is used to examine individual items for bias.
Operational Test		Test is administered statewide with uniform procedures and full reporting of scores and stakes for examinees and schools.
p-value		Difficulty of an item, defined by using the proportion of examinees who answered an item correctly.
Parallel Forms		Covers the same curricular material as other forms.
Percentile		The score on a test below which a given percentage of scores fall.
Pilot Test		Test is administered as if it were "the real thing" but has limited associated reporting or stakes for examinees or schools.
Quasi-equated		Item statistics are available for items that have been through item tryouts (although they could change after revisions); and field test forms are developed using this information to maintain similar difficulty levels to the extent possible.
Raw score		The unadjusted score on a test, determined by counting the number of correct answers.
Scale score		A score to which raw scores are converted by numerical transformation. Scale scores allow for comparison of different forms of the test using the same scale.

Standard error of measurement		The standard deviation of an individual's observed scores, usually estimated from group data.
Test Blueprint		The testing plan, which includes numbers of items from each objective to appear on a test and the arrangement of objectives.
Threshold		The point on the ability scale where the probability of a correct response is fifty percent. Threshold for an item of average difficulty is 0.00.
WINSCAN Program		Proprietary computer program that contains the test answer keys and files necessary to scan and score state multiple-choice tests. Student scores and local reports can be generated immediately using the program.

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Appendix A: Item Development Guidelines

Content Guidelines

1. Items must be based on the goals and objectives outlined in the North Carolina *Standard Course of Study* and written at the appropriate grade level.
2. To the extent possible, each item written should measure a single concept, principle, procedure, or competency.
3. Write items that measure important or significant material instead of trivial material.
4. Keep the testing vocabulary consistent with the expected grade level of students tested.
5. Avoid writing stems based on opinions.
6. Emphasize higher-level thinking skills using the taxonomy provided by the NCDPI.

Procedural Guidelines

7. Use the best answer format.
8. Avoid writing complex multiple-choice items.
9. Format the items vertically, not horizontally.
10. Avoid errors of grammar, abbreviations, punctuation, and spelling.
11. Minimize student reading time.
12. Avoid tricky or misleading items.
13. Avoid the use of contractions.
14. Avoid the use of first or second person.

Stem Construction Guidelines

15. Items are to be written in question format.
16. Ensure that the directions written in the stems are clear and that the wording lets the students know exactly what is being tested.
17. Avoid excessive verbiage when writing the item stems.
18. Word the stems positively, avoiding any negative phrasing. The use of negatives such as NOT and EXCEPT is to be avoided.
19. Write the items so that the central idea and the phrasing are included in the stem instead of the foils.
20. Place the interrogative as close to the item foils as possible.

General Foil Development

21. Each item must contain four foils (A, B, C, D).
22. Order the answer choices in a logical order. Numbers should be listed in ascending or descending order.
23. Each item should contain foils that are independent and not overlapping.

24. All foils in an item should be homogeneous in content and length.
25. Do not use the following as foils: all of the above, none of the above, I don't know.
26. Word the foils positively, avoiding any negative phrasing. The use of negatives such as NOT and EXCEPT is to be avoided.
27. Avoid providing clues to the correct response. Avoid writing items with phrases in the stem (slang associations) that are repeated in the foils.
28. Also avoid including ridiculous options.
29. Avoid grammatical clues to the correct answer.
30. Avoid specific determiners since they are so extreme that they are seldom the correct response. To the extent possible, specific determiners such as ALWAYS, NEVER, TOTALLY, and ABSOLUTELY should not be used when writing items. Qualifiers such as ***best, most likely, approximately,*** etc. should be bold and italic.
31. The correct response for items written should be evenly balanced among the response options. For a 4-option multiple-choice item, each correct response should be located at each option position about 25 percent of the time.
32. Items should contain one and only one best (correct) answer.

Distractor Development

33. Use plausible distractors. The best (correct) answer must clearly be the best (correct) answer and the incorrect responses must clearly be inferior to the best (correct) answer. No distractor should be obviously wrong.
34. To the extent possible, use the common errors made by students as distractors. Give your reasoning for incorrect choices on the back of the item spec sheet.
35. Technically written phrases may be used, where appropriate, as plausible distractors.
36. True phrases that do not correctly respond to the stem may be used as plausible distractors where appropriate.
37. The use of humor should be avoided.

Appendix B. Test Specifications

Test Specifications
***NCEXTEND2* Grade 3 Test of Reading Comprehension (Edition 2)**

Element	Comments
Purpose of the Test	The North Carolina ***NCEXTEND2*** Grade 3 Test of Reading Comprehension is required by General Statute 115C-174.10 (c) as a component of the North Carolina Annual Testing Program. It is a curriculum-based achievement test specifically aligned to North Carolina's *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students. The purposes of the end-of-grade tests are: 1. To assure that all high school graduates possess the minimum skills and knowledge necessary to function as a member of society, 2. To provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and 3. To establish additional means for making the education system at the state, local, and school levels accountable to the public for results.
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 3. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above on the ***NCEXTEND2*** Grade 3 Test of Reading Comprehension. Test results are also used to determine school, district, and state adequate yearly progress for the federal requirements per *No Child Left Behind*.
Curriculum Cycle	Test is based on the 2004 English/language arts curriculum (adopted by the State Board of Education). Curriculum cycle revision is every five years. The next curriculum revision is 2009.
Content of the Test	
Subject/Grade	Reading Comprehension Grade 3
Alignment	The ***NCEXTEND2*** Grade 3 Test of Reading Comprehension will be comprised of selections that are appropriate reading for students in the third grade. Authentic selections are used and reflect what a student at that level might read in a class or on his/her own. Selections are reviewed for appropriateness of language and topic, paying particular attention to potential sources of bias or sensitivity. Each selection must have a clear beginning,

	middle, and end. The item writing process directs item writers to follow the North Carolina *Standard Course of Study* (NC*SCS*) when creating items. The competency goals in the NC*SCS* are: Goal 1: The learner will apply enabling strategies and skills to read and write. Goal 2: The learner will apply strategies and skills to comprehend text that is read, heard, and viewed. Goal 3: The learner will make connections through the use of oral language, written language, and media and technology. Goal 4: The learner will apply strategies and skills to create oral, written, and visual texts. Goal 5: The learner will apply grammar and language conventions to communicate effectively.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	Goal 1: 5–10 % Goal 2: 62–68 % Goal 3: 23–27 %
Obj. not/indirectly measured	The following objectives are not measurable in a multiple-choice format: 1.03, 1.05, 2.05, 2.07, 3.01, 3.03, 3.04. Goal 4 and Goal 5 are not measurable in a multiple-choice format
Miscellaneous remarks	
Design	
Population	Students enrolled in the third grade on the first day of the test administration.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic, etc.). Distractors must be plausible and the language must be clear and precise. The wording of the stem and the foils is simplified for access.
Delivery Mode	

Mode	Paper and pencil
Accommodations	Braille, large print, one test item per page, Braille writer/slate and stylus (and Braille paper), Cranmer abacus, dictation to a scribe, interpreter/transliterator signs/cues test, keyboarding devices, magnification devices, students marks answer in test book, student reads test aloud to self, test administrator reads test aloud, hospital/home testing, multiple testing sessions, scheduled extended time, and testing in a separate room
Number of Items (Total)	40
Operational	40
Embedded	None
Time Limits	*To Be Determined*
Universal Design	Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.
Item & Test Characteristics	
Item Difficulty	Easy, Medium, and Hard (a priori)
Test Difficulty	To Be Determined after the Field Test (p-value)
Cognitive Taxonomy	Dimensions of Thinking (Marzano et al.) Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating
Stimulus Materials	There is one selection per genre from literary (fiction, nonfiction, poem) and informational (content and consumer) sources plus one selection that varies (may be fiction, nonfiction, poetry, content, or consumer) for a total of six selections. Selections were identified by the contractor's content staff and approved by teacher committees, NCDPI curriculum staff, and NCDPI test development staff.

Other Specifications	None
Psychometric Properties	
P-value	.15 ≤ keep ≥ .85 .85 > reserve > .90 .10 < reserve < .15
Biserial Correlation	Keep ≥ .25 .25 > Reserve ≥ .15
Slope	Keep ≥ .7 .7 > Reserve > .5
Asymptote	Keep ≤ .35 .35 < reserve ≤ .45
Threshold	-2.5 ≤ keep ≤ 2.5 2.5 < reserve < 3.0 -2.57 > reserve > -3.30
Dif Flags	.667 < MH < 1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Blank piece of white paper
Testing Window	Last three weeks of the school year
Scoring	
Methods	Scanned and scored locally (NCDPI provided software)
Raw Scores	0–40

Scale Scores (1st Administration)	To Be Determined
Standard Setting	
Achievement Level Ranges & Descriptors	TBD: 4 achievement levels
Method	External Committee Item Mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Individual Student Report, School Report Card, District Report Card, State Report Card
NCLB	Adequate Yearly Progress (AYP)
Appropriate Use	Measure of reading comprehension at the end of grade 3
History of Development	
NCDPI	Mildred Bazemore, NCDPI Test Development Section Chief Laura Kramer, NCDPI Psychometrician Nadine McBride, NCDPI Psychometrician Tammy Howard, NCDPI Test Development Content Lead Marilyn Palmer, NCDPI Curriculum English/language arts Carolyn Southerland, NCDPI Curriculum English/language arts Tara Almeida, NCDPI Curriculum English/language arts Cindy Sumerel, NCSU-TOPS Content English/language arts
Committee Members (Teachers, curriculum experts, parents, and community representatives)	Attached
Meeting Minutes	Attached

Test Specifications
***NCEXTEND2* Grade 4 Test of Reading Comprehension (Edition 2)**

Element	Comments
Purpose of the Test	The North Carolina ***NCEXTEND2*** Grade 4 Test of Reading Comprehension is required by General Statute 115C-174.10 (c) as a component of the North Carolina Annual Testing Program. It is a curriculum-based achievement test specifically aligned to North Carolina's *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students. The purposes of the end-of grade tests are: 1. To assure that all high school graduates possess the minimum skills and knowledge necessary to function as a member of society, 2. To provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and 3. To establish additional means for making the education system at the state, local, and school levels accountable to the public for results.
Uses of the Test	According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above on the ***NCEXTEND2*** Grade 4 Test of Reading Comprehension. Test results are also used to determine school, district, and state adequate yearly progress for the federal requirements per *No Child Left Behind*.
Curriculum Cycle	Test is based on the 2004 English/language arts curriculum (adopted by the State Board of Education). Curriculum cycle revision is every five years. The next curriculum revision is 2009.
Content of the Test	
Subject/Grade	Reading Comprehension Grade 4
Alignment	The ***NCEXTEND2*** Grade 4 Test of Reading Comprehension will be comprised of selections that are appropriate reading for students in the fourth grade. Authentic selections are used and reflect what a student at that level might read in a class or on his/her own. Selections are reviewed for appropriateness of language and topic, paying particular attention to potential sources of bias or sensitivity. Each selection must have a clear beginning, middle, and end. The item writing process directs item writers to follow the North

	Carolina *Standard Course of Study* (NC*SCS*) when creating items. The competency goals in the NC*SCS* are: Goal 1: The learner will apply enabling strategies and skills to read and write. Goal 2: The learner will apply strategies and skills to comprehend text that is read, heard, and viewed. Goal 3: The learner will make connections through the use of oral language, written language, and media and technology. Goal 4: The learner will apply strategies and skills to create oral, written, and visual texts. Goal 5: The learner will apply grammar and language conventions to communicate effectively.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	Goal 1: 5–10 % Goal 2: 60–65 % Goal 3: 25–30 %
Obj. not/indirectly measured	The following objectives are not measurable in a multiple-choice format: 1.05, 1.06, 2.09, 3.04, 3.06 Goal 4 and Goal 5 are not measurable in a multiple-choice format
Miscellaneous remarks	
Design	
Population	Students enrolled in the fourth grade on the first day of the test administration.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic, etc.). Distractors must be plausible and the language must be clear and precise. The wording of the stem and the foils is simplified for access.
Delivery Mode	
Mode	Paper and pencil

Accommodations	Braille, large print, one test item per page, Braille writer/slate and stylus (and Braille paper), Cranmer abacus, dictation to a scribe, interpreter/transliterator signs/cues test, keyboarding devices, magnification devices, students marks answer in test book, student reads test aloud to self, test administrator reads test aloud, hospital/home testing, multiple testing sessions, scheduled extended time, and testing in a separate room
Number of Items (Total)	40
Operational	40
Embedded	None
Time Limits	*To Be Determined*
Universal Design	Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.
Item & Test Characteristics	
Item Difficulty	Easy, Medium, and Hard (a priori)
Test Difficulty	To Be Determined after the Field Test (p-value)
Cognitive Taxonomy	Dimensions of Thinking (Marzano et al.) Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating
Stimulus Materials	There is one selection per genre from literary (fiction, nonfiction, poem) and informational (content and consumer) sources plus one selection that varies (may be fiction, nonfiction, poetry, content, or consumer) for a total of six selections. Selections were identified by the contractor's content staff and approved by teacher committees, NCDPI curriculum staff, and NCDPI test development staff.
Other Specifications	None

Psychometric Properties	
P-value	.15 ≤ keep ≥ .85 .85 > reserve > .90 .10 < reserve < .15
Biserial Correlation	Keep ≥ .25 .25 > Reserve ≥ .15
Slope	Keep ≥ .7 .7 > Reserve > .5
Asymptote	Keep ≤ .35 .35 < reserve ≤ .45
Threshold	-2.5 ≤ keep ≤ 2.5 2.5 < reserve < 3.0 -2.57 > reserve > -3.30
Dif Flags	.667 < MH < 1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Blank piece of white paper
Testing Window	Last three weeks of the school year
Scoring	
Methods	Scanned and scored locally (NCDPI provided software)
Raw Scores	0–40
Scale Scores (1st Administration)	To Be Determined

Standard Setting	
Achievement Level Ranges & Descriptors	TBD: 4 achievement levels
Method	External Committee Item Mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Individual Student Report, School Report Card, District Report Card, State Report Card
NCLB	Adequate Yearly Progress (AYP)
Appropriate Use	Measure of reading comprehension at the end of grade 4
History of Development	
NCDPI	Mildred Bazemore, NCDPI Test Development Section Chief Laura Kramer, NCDPI Psychometrician Nadine McBride, NCDPI Psychometrician Tammy Howard, NCDPI Test Development Content Lead Marilyn Palmer, NCDPI Curriculum English/language arts Carolyn Southerland, NCDPI Curriculum English/language arts Tara Almeida, NCDPI Curriculum English/language arts Cindy Sumerel, NCSU-TOPS Content English/language arts
Committee Members (Teachers, curriculum experts, parents, and community representatives)	Attached
Meeting Minutes	Attached

Test Specifications
***NCEXTEND2* Grade 5 Test of Reading Comprehension (Edition 2)**

Element	Comments
Purpose of the Test	The North Carolina ***NCEXTEND2*** Grade 5 Test of Reading Comprehension is required by General Statute 115C-174.10 (c) as a component of the North Carolina Annual Testing Program. It is a curriculum-based achievement test specifically aligned to North Carolina's *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students. The purposes of the end-of grade tests are: 1. To assure that all high school graduates possess the minimum skills and knowledge necessary to function as a member of society, 2. To provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and 3. To establish additional means for making the education system at the state, local, and school levels accountable to the public for results.
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 5. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above on the ***NCEXTEND2*** Grade 5 Test of Reading Comprehension. Test results are also used to determine school, district, and state adequate yearly progress for the federal requirements per *No Child Left Behind*.
Curriculum Cycle	Test is based on the 2004 English/language arts curriculum (adopted by the State Board of Education). Curriculum cycle revision is every five years. The next curriculum revision is 2009.
Content of the Test	
Subject/Grade	Reading Comprehension Grade 5
Alignment	The ***NCEXTEND2*** Grade 5 Test of Reading Comprehension will be comprised of selections that are appropriate reading for students in the fifth grade. Authentic selections are used and reflect what a student at that level might read in a class or on his/her own. Selections are reviewed for appropriateness of language and topic, paying particular attention to potential sources of bias or sensitivity. Each selection must have a clear

	beginning, middle, and end. The item writing process directs item writers to follow the North Carolina *Standard Course of Study* (NC*SCS*) when creating items. The competency goals in the NC*SCS* are: Goal 1: The learner will apply enabling strategies and skills to read and write. Goal 2: The learner will apply strategies and skills to comprehend text that is read, heard, and viewed. Goal 3: The learner will make connections through the use of oral language, written language, and media and technology. Goal 4: The learner will apply strategies and skills to create oral, written, and visual texts. Goal 5: The learner will apply grammar and language conventions to communicate effectively.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	Goal 1: 5–10 % Goal 2: 58–62 % Goal 3: 30–35 %
Obj. not/indirectly measured	The following objectives are not measurable in a multiple-choice format: 1.04, 1.05, 2.09, 3.06 Goal 4 and Goal 5 are not measurable in a multiple-choice format
Miscellaneous remarks	
Design	
Population	Students enrolled in the fifth grade on the first day of the test administration.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic, etc.). Distractors must be plausible and the language must be clear and precise. The wording of the stem and the foils is simplified for access.
Delivery Mode	

Mode	Paper and pencil
Accommodations	Braille, large print, one test item per page, Braille writer/slate and stylus (and Braille paper), Cranmer abacus, dictation to a scribe, interpreter/transliterator signs/cues test, keyboarding devices, magnification devices, students marks answer in test book, student reads test aloud to self, test administrator reads test aloud, hospital/home testing, multiple testing sessions, scheduled extended time, and testing in a separate room
Number of Items (Total)	40
Operational	40
Embedded	None
Time Limits	*To Be Determined*
Universal Design	Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.
Item & Test Characteristics	
Item Difficulty	Easy, Medium, and Hard (a priori)
Test Difficulty	To Be Determined after the Field Test (p-value)
Cognitive Taxonomy	Dimensions of Thinking (Marzano et al.) Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating
Stimulus Materials	There is one selection per genre from literary (fiction, nonfiction, poem) and informational (content and consumer) sources plus one selection that varies (may be fiction, nonfiction, poetry, content, or consumer) for a total of six selections. Selections were identified by the contractor's content staff and approved by teacher committees, NCDPI curriculum staff, and

	NCDPI test development staff.
Other Specifications	None
Psychometric Properties	
P-value	.15 ≤ keep ≥ .85 .85 > reserve > .90 .10 < reserve < .15
Biserial Correlation	Keep ≥ .25 .25 > Reserve ≥ .15
Slope	Keep ≥ .7 .7 > Reserve > .5
Asymptote	Keep ≤ .35 .35 < reserve ≤ .45
Threshold	-2.5 ≤ keep ≤ 2.5 2.5 < reserve < 3.0 -2.57 > reserve > -3.30
Dif Flags	.667 < MH < 1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Blank piece of white paper
Testing Window	Last three weeks of the school year
Scoring	
Methods	Scanned and scored locally (NCDPI provided software)

Raw Scores	0–40
Scale Scores (1st Administration)	To Be Determined
Standard Setting	
Achievement Level Ranges & Descriptors	TBD: 4 achievement levels
Method	External Committee Item Mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Individual Student Report, School Report Card, District Report Card, State Report Card
NCLB	Adequate Yearly Progress (AYP)
Appropriate Use	Measure of reading comprehension at the end of grade 5
History of Development	
NCDPI	Mildred Bazemore, NCDPI Test Development Section Chief Laura Kramer, NCDPI Psychometrician Nadine McBride, NCDPI Psychometrician Tammy Howard, NCDPI Test Development Content Lead Marilyn Palmer, NCDPI Curriculum English/language arts Carolyn Southerland, NCDPI Curriculum English/language arts Tara Almeida, NCDPI Curriculum English/language arts Cindy Sumerel, NCSU-TOPS Content English/language arts
Committee Members (Teachers, curriculum experts, parents, and community representatives)	Attached

Meeting Minutes	Attached

Test Specifications
***NCEXTEND2* Grade 6 Test of Reading Comprehension (Edition 2)**

Element	Comments
Purpose of the Test	The North Carolina ***NCEXTEND2*** Grade 6 Test of Reading Comprehension is required by General Statute 115C-174.10 (c) as a component of the North Carolina Annual Testing Program. It is a curriculum-based achievement test specifically aligned to North Carolina's *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students. The purposes of the end-of grade tests are: 1. To assure that all high school graduates possess the minimum skills and knowledge necessary to function as a member of society, 2. To provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and 3. To establish additional means for making the education system at the state, local, and school levels accountable to the public for results.
Uses of the Test	According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above on the ***NCEXTEND2*** Grade 6 Test of Reading Comprehension. Test results are also used to determine school, district, and state adequate yearly progress for the federal requirements per *No Child Left Behind*.
Curriculum Cycle	Test is based on the 2004 English/language arts curriculum (adopted by the State Board of Education). Curriculum cycle revision is every five years. The next curriculum revision is 2009.
Content of the Test	
Subject/Grade	Reading Comprehension Grade 6
Alignment	The ***NCEXTEND2*** Grade 6 Test of Reading Comprehension will be comprised of selections that are appropriate reading for students in the sixth grade. Authentic selections are used and reflect what a student at that level might read in a class or on his/her own. Selections are reviewed for appropriateness of language and topic, paying particular attention to potential sources of bias or sensitivity. Each selection must have a clear beginning, middle, and end. The item writing process directs item writers to follow the

	North Carolina *Standard Course of Study* (NC*SCS*) when creating items. The competency goals in the NC*SCS* are: Goal 1: The learner will apply enabling strategies and skills to read and write. Goal 2: The learner will apply strategies and skills to comprehend text that is read, heard, and viewed. Goal 3: The learner will make connections through the use of oral language, written language, and media and technology. Goal 4: The learner will apply strategies and skills to create oral, written, and visual texts. Goal 5: The learner will apply grammar and language conventions to communicate effectively.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	Goal 1: 9–11 % Goal 2: 18–22 % Goal 3: 5–8 % Goal 4: 9–11 % Goal 5: 50–55 % Goal 6: 3–8 %
Obj. not/indirectly measured	The following objectives are not measurable in a multiple-choice format: 1.01, 1.03, 1.04, 6.02
Miscellaneous remarks	
Design	
Population	Students enrolled in the sixth grade on the first day of the test administration.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic, etc.). Distractors must be plausible and the language must be clear and precise. The wording of the stem and the foils is simplified for access.
Delivery Mode	

Mode	Paper and pencil
Accommodations	Braille, large print, one test item per page, Braille writer/slate and stylus (and Braille paper), Cranmer abacus, dictation to a scribe, interpreter/transliterator signs/cues test, keyboarding devices, magnification devices, students marks answer in test book, student reads test aloud to self, test administrator reads test aloud, hospital/home testing, multiple testing sessions, scheduled extended time, and testing in a separate room
Number of Items (Total)	40
Operational	40
Embedded	None
Time Limits	*To Be Determined*
Universal Design	Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.
Item & Test Characteristics	
Item Difficulty	Easy, Medium, and Hard (a priori)
Test Difficulty	To Be Determined after the Field Test (p-value)
Cognitive Taxonomy	Dimensions of Thinking (Marzano et al.) Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating
Stimulus Materials	There is one selection per genre from literary (fiction, nonfiction, poem) and informational (content and consumer) sources plus one selection that varies (may be fiction, nonfiction, poetry, content, or consumer) for a total of six selections. Selections were identified by the contractor's content staff and approved by teacher committees, NCDPI curriculum staff, and

	NCDPI test development staff.
Other Specifications	None
Psychometric Properties	
P-value	.15 ≤ keep ≥ .85 .85 > reserve > .90 .10 < reserve < .15
Biserial Correlation	Keep ≥ .25 .25 > Reserve ≥ .15
Slope	Keep ≥ .7 .7 > Reserve > .5
Asymptote	Keep ≤ .35 .35 < reserve ≤ .45
Threshold	-2.5 ≤ keep ≤ 2.5 2.5 < reserve < 3.0 -2.57 > reserve > -3.30
Dif Flags	.667 < MH < 1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Blank piece of white paper
Testing Window	Last three weeks of the school year
Scoring	
Methods	Scanned and scored locally (NCDPI provided software)

Raw Scores	0–40
Scale Scores (1st Administration)	To Be Determined
Standard Setting	
Achievement Level Ranges & Descriptors	TBD: 4 achievement levels
Method	External Committee Item Mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Individual Student Report, School Report Card, District Report Card, State Report Card
NCLB	Adequate Yearly Progress (AYP)
Appropriate Use	Measure of reading comprehension at the end of grade 6
History of Development	
NCDPI	Mildred Bazemore, NCDPI Test Development Section Chief Laura Kramer, NCDPI Psychometrician Nadine McBride, NCDPI Psychometrician Tammy Howard, NCDPI Test Development Content Lead Valorie Hargett, NCDPI Curriculum English/language arts Phyllis Blue, NCDPI Curriculum English/language arts Patricia Chalmers, NCDPI Curriculum English/language arts
Committee Members (Teachers, curriculum experts, parents, and community representatives)	Attached
Meeting Minutes	Attached

Test Specifications
***NCEXTEND2* Grade 7 Test of Reading Comprehension (Edition 2)**

Element	Comments
Purpose of the Test	The North Carolina ***NCEXTEND2*** Grade 7 Test of Reading Comprehension is required by General Statute 115C-174.10 (c) as a component of the North Carolina Annual Testing Program. It is a curriculum-based achievement test specifically aligned to North Carolina's *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students. The purposes of the end-of grade tests are: 1. To assure that all high school graduates possess the minimum skills and knowledge necessary to function as a member of society, 2. To provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and 3. To establish additional means for making the education system at the state, local, and school levels accountable to the public for results.
Uses of the Test	According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above on the ***NCEXTEND2*** Grade 7 Test of Reading Comprehension. Test results are also used to determine school, district, and state adequate yearly progress for the federal requirements per *No Child Left Behind*.
Curriculum Cycle	Test is based on the 2004 English/language arts curriculum (adopted by the State Board of Education). Curriculum cycle revision is every five years. The next curriculum revision is 2009.
Content of the Test	
Subject/Grade	Reading Comprehension Grade 7
Alignment	The ***NCEXTEND2*** Grade 7 Test of Reading Comprehension will be comprised of selections that are appropriate reading for students in the seventh grade. Authentic selections are used and reflect what a student at that level might read in a class or on his/her own. Selections are reviewed for appropriateness of language and topic, paying particular attention to potential sources of bias or sensitivity. Each selection must have a clear beginning, middle, and end. The item writing process directs item writers to follow the

	North Carolina *Standard Course of Study* (NC*SCS*) when creating items. The competency goals in the NC*SCS* are: Goal 1: The learner will apply enabling strategies and skills to read and write. Goal 2: The learner will apply strategies and skills to comprehend text that is read, heard, and viewed. Goal 3: The learner will make connections through the use of oral language, written language, and media and technology. Goal 4: The learner will apply strategies and skills to create oral, written, and visual texts. Goal 5: The learner will apply grammar and language conventions to communicate effectively.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	Goal 1: 6–8 % Goal 2: 16–19 % Goal 3: 5–8 % Goal 4: 14–16 % Goal 5; 50–55 % Goal 6: 3–8 %
Obj. not/indirectly measured	The following objectives are not measurable in a multiple-choice format: 1.01, 1.03, 1.04, 6.02
Miscellaneous remarks	
Design	
Population	Students enrolled in the seventh grade on the first day of the test administration.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic, etc.). Distractors must be plausible and the language must be clear and precise. The wording of the stem and the foils is simplified for access.
Delivery Mode	

Mode	Paper and pencil
Accommodations	Braille, large print, one test item per page, Braille writer/slate and stylus (and Braille paper), Cranmer abacus, dictation to a scribe, interpreter/transliterator signs/cues test, keyboarding devices, magnification devices, students marks answer in test book, student reads test aloud to self, test administrator reads test aloud, hospital/home testing, multiple testing sessions, scheduled extended time, and testing in a separate room
Number of Items (Total)	40
Operational	40
Embedded	None
Time Limits	*To Be Determined*
Universal Design	Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.
Item & Test Characteristics	
Item Difficulty	Easy, Medium, and Hard (a priori)
Test Difficulty	To Be Determined after the Field Test (p-value)
Cognitive Taxonomy	Dimensions of Thinking (Marzano et al.) Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating
Stimulus Materials	There is one selection per genre from literary (fiction, nonfiction, poem) and informational (content and consumer) sources plus one selection that varies (may be fiction, nonfiction, poetry, content, or consumer) for a total of six selections. Selections were identified by the contractor's content staff and approved by teacher committees, NCDPI curriculum staff, and

	NCDPI test development staff.
Other Specifications	None
Psychometric Properties	
P-value	.15 ≤ keep ≥ .85 .85 > reserve > .90 .10 < reserve < .15
Biserial Correlation	Keep ≥ .25 .25 > Reserve ≥ .15
Slope	Keep ≥ .7 .7 > Reserve > .5
Asymptote	Keep ≤ .35 .35 < reserve ≤ .45
Threshold	-2.5 ≤ keep ≤ 2.5 2.5 < reserve < 3.0 -2.57 > reserve > -3.30
Dif Flags	.667 < MH < 1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Blank piece of white paper
Testing Window	Last three weeks of the school year
Scoring	
Methods	Scanned and scored locally (NCDPI provided software)

Raw Scores	0–40
Scale Scores (1st Administration)	To Be Determined
Standard Setting	
Achievement Level Ranges & Descriptors	TBD: 4 achievement levels
Method	External Committee Item Mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Individual Student Report, School Report Card, District Report Card, State Report Card
NCLB	Adequate Yearly Progress (AYP)
Appropriate Use	Measure of reading comprehension at the end of grade 7
History of Development	
NCDPI	Mildred Bazemore, NCDPI Test Development Section Chief Laura Kramer, NCDPI Psychometrician Nadine McBride, NCDPI Psychometrician Tammy Howard, NCDPI Test Development Content Lead Valorie Hargett, NCDPI Curriculum English/language arts Phyllis Blue, NCDPI Curriculum English/language arts Patricia Chalmers, NCDPI Curriculum English/language arts Cindy Sumerel, NCSU-TOPS Content English/language arts
Committee Members (Teachers, curriculum experts, parents, and community representatives)	Attached
Meeting Minutes	Attached

Test Specifications
***NCEXTEND2* Grade 8 Test of Reading Comprehension (Edition 2)**

Element	Comments
Purpose of the Test	The North Carolina ***NCEXTEND2*** Grade 8 Test of Reading Comprehension is required by General Statute 115C-174.10 (c) as a component of the North Carolina Annual Testing Program. It is a curriculum-based achievement test specifically aligned to North Carolina's *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students. The purposes of the end-of grade tests are: 1. To assure that all high school graduates possess the minimum skills and knowledge necessary to function as a member of society, 2. To provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and 3. To establish additional means for making the education system at the state, local, and school levels accountable to the public for results.
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 8. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above on the ***NCEXTEND2*** Grade 8 Test of Reading Comprehension. Test results are also used to determine school, district, and state adequate yearly progress for the federal requirements per *No Child Left Behind*.
Curriculum Cycle	Test is based on the 2004 English/language arts curriculum (adopted by the State Board of Education). Curriculum cycle revision is every five years. The next curriculum revision is 2009.
Content of the Test	
Subject/Grade	Reading Comprehension Grade 8
Alignment	The ***NCEXTEND2*** Grade 8 Test of Reading Comprehension will be comprised of selections that are appropriate reading for students in the eighth grade. Authentic selections are used and reflect what a student at that level might read in a class or on his/her own. Selections are reviewed for appropriateness of language and topic, paying particular attention to potential sources of bias or sensitivity. Each selection must have a clear

	beginning, middle, and end. The item writing process directs item writers to follow the North Carolina *Standard Course of Study* (NC*SCS*) when creating items. The competency goals in the NC*SCS* are: Goal 1: The learner will apply enabling strategies and skills to read and write. Goal 2: The learner will apply strategies and skills to comprehend text that is read, heard, and viewed. Goal 3: The learner will make connections through the use of oral language, written language, and media and technology. Goal 4: The learner will apply strategies and skills to create oral, written, and visual texts. Goal 5: The learner will apply grammar and language conventions to communicate effectively.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	Goal 1: 3–7 % Goal 2: 18–22 % Goal 3: 5–8 % Goal 4: 19–21 % Goal 5: 45–50 % Goal 6: 3–8 %
Obj. not/indirectly measured	The following objectives are not measurable in a multiple-choice format: 1.01, 1.03, 1.04, 6.02
Miscellaneous remarks	
Design	
Population	Students enrolled in the eighth grade on the first day of the test administration.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic, etc.). Distractors must be plausible and the language must be clear and precise.

	The wording of the stem and the foils is simplified for access.
Delivery Mode	
Mode	Paper and pencil
Accommodations	Braille, large print, one test item per page, Braille writer/slate and stylus (and Braille paper), Cranmer abacus, dictation to a scribe, interpreter/transliterator signs/cues test, keyboarding devices, magnification devices, students marks answer in test book, student reads test aloud to self, test administrator reads test aloud, hospital/home testing, multiple testing sessions, scheduled extended time, and testing in a separate room
Number of Items (Total)	40
Operational	40
Embedded	None
Time Limits	*To Be Determined*
Universal Design	Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.
Item & Test Characteristics	
Item Difficulty	Easy, Medium, and Hard (a priori)
Test Difficulty	To Be Determined after the Field Test (p-value)
Cognitive Taxonomy	Dimensions of Thinking (Marzano et al.) Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating
Stimulus Materials	There is one selection per genre from literary (fiction, nonfiction, poem) and informational (content and consumer) sources plus one selection that varies (may be fiction, nonfiction, poetry, content, or consumer) for a total of six

	selections. Selections were identified by the contractor's content staff and approved by teacher committees, NCDPI curriculum staff, and NCDPI test development staff.
Other Specifications	None
Psychometric Properties	
P-value	.15 ≤ keep ≥ .85 .85 > reserve > .90 .10 < reserve < .15
Biserial Correlation	Keep ≥ .25 .25 > Reserve ≥ .15
Slope	Keep ≥ .7 .7 > Reserve > .5
Asymptote	Keep ≤ .35 .35 < reserve ≤ .45
Threshold	-2.5 ≤ keep ≤ 2.5 2.5 < reserve < 3.0 -2.57 > reserve > -3.30
Dif Flags	.667 < MH < 1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Blank piece of white paper
Testing Window	Last three weeks of the school year
Scoring	

Methods	Scanned and scored locally (NCDPI provided software)
Raw Scores	0–40
Scale Scores (1st Administration)	To Be Determined
Standard Setting	
Achievement Level Ranges & Descriptors	TBD: 4 achievement levels
Method	External Committee Item Mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Individual Student Report, School Report Card, District Report Card, State Report Card
NCLB	Adequate Yearly Progress (AYP)
Appropriate Use	Measure of reading comprehension at the end of grade 8
History of Development	
NCDPI	Mildred Bazemore, NCDPI Test Development Section Chief Laura Kramer, NCDPI Psychometrician Nadine McBride, NCDPI Psychometrician Tammy Howard, NCDPI Test Development Content Lead Valorie Hargett, NCDPI Curriculum English/language arts Phyllis Blue, NCDPI Curriculum English/language arts Patricia Chalmers, NCDPI Curriculum English/language arts Cindy Sumerel, NCSU-TOPS Content English/language arts
Committee Members (Teachers, curriculum experts, parents, and community representatives)	Attached

Meeting Minutes	Attached

Test Specification Outline
***NCEXTEND2** EOG Grade 3 Mathematics*

Element	Comments
Purpose of the Test	***NCEXTEND2*** tests are alternate assessments designed to measure grade-level competencies of students with disabilities using modified achievement standards in a simplified multiple-choice format. The alternative assessments are implemented in response to the federal Individuals with Disabilities Education Act (IDEA) and the No Child Left Behind Act of 2001 (NCLB). As a component of the North Carolina Annual Testing Program, this test falls subject to General Statute §115C-174.10, which states the purposes of North Carolina state mandated tests are "(i) to assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a member of society, (ii) to provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and (iii) to establish additional means for making the education system at the state, local, and school levels accountable to the public for results."
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 3. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above.
Curriculum Cycle	Test is based on the 2003 North Carolina Mathematics *Standard Course of Study*.
Content of the Test	
Subject/Course & Grade	***NCEXTEND2*** Mathematics Grade 3
Alignment	The ***NCEXTEND2*** Alternate Assessment for EOG Mathematics at grade 3 assesses the 2003 North Carolina Mathematics *Standard Course of Study* (*SCS*). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 3 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. The assessment is a multiple-choice test with fewer items that utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** uses simplified language and fewer test items and item responses (foils/answer choices) to assess students on grade-

	level content. ***NCEXTEND2*** provides access to the statewide testing program through a test design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 3.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	By Goal (See below; goal weighting matches the weighting for the regular EOG test.)
Obj. not/indirectly measured	1.06, 5.03
Miscellaneous remarks	NA
Design	
Population	***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 3 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 3. To determine student participation in the ***NCEXTEND2*** EOG Mathematics Grade 3 test, the following eligibility requirements must be considered: • The student must have a current IEP; • The student **DOES NOT** have a current 504 plan; • The student, if identified as limited English proficient (LEP), must also have a current IEP; • The student **IS NOT** identified as having a significant cognitive disability; • The student **IS NOT** receiving instruction in the *SCS* through the Essences/Extensions; • The student's progress in response to high-quality instruction is such that the student is not likely to achieve grade-level proficiency within the school year covered by

	the IEP; • The student's disability has precluded the student from achieving grade level proficiency, as demonstrated by objective evidence, (e.g., results from standardized state tests, IQ tests, achievement tests, aptitude tests, and psychological evaluations. **It is the expectation that more than one objective measure would be used to assist in the evaluation of a student's assessment placement.**); and • The nature of the student's disability may require assessments that are different in design.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic). Distractors must be plausible and the language must be clear and precise.
Delivery Mode	
Mode	Paper & pencil, online pending
Accommodations	As written in a student's IEP: Assistive Technology Devices, Braille, Braille Writer/Slate and Stylus, Cranmer Abacus, Dictation to Scribe, Home/Hospital Testing, Interpreter/Transliterator Signs/Cues Test, Keyboarding Devices, Large Print, Magnification Devices, Multiple Testing Sessions, One Test Item Per Page, Scheduled Extended Time, Student Reads Test Aloud to Self, Student Marks Answers in Test Book, Test Administrator Reads Test Aloud, Testing in Separate Room
Number of Items (Total)	40, including 27 calculator active and 13 calculator inactive
Operational	40
Embedded	0
By section	Sections 1 through 3 have 9 questions each, calculator active. Section 4 has 13 questions, calculator inactive
Time Limits	None. Estimated time is 88 minutes for the calculator active section (administered first) and 60 minutes for the calculator inactive section.

<table>
<tr><td>Universal Design</td><td>Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.</td></tr>
<tr><td colspan="2">Item & Test Characteristics</td></tr>
<tr><td>Item</td><td>Thinking Skill Levels: Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating

NCSCS Goal/Objective

Difficulty Level(a priori): Easy, Medium, and Hard</td></tr>
<tr><td>Test</td><td>
<table>
<tr><th>Goal</th><th>Description of Category</th><th>Average Percentage</th></tr>
<tr><td>1</td><td>The learner will model, identify, and compute with whole numbers through 9,999.</td><td>35%–40%</td></tr>
<tr><td>2</td><td>The learner will recognize and use standard units of metric and customary measure.</td><td>10%–12%</td></tr>
<tr><td>3</td><td>The learner will recognize and use basic geometric properties of two- and three-dimensional figures.</td><td>12%–15%</td></tr>
<tr><td>4</td><td>The learner will understand and use data and simple probability concepts.</td><td>12%–15%</td></tr>
<tr><td>5</td><td>The learner will recognize, determine, and represent patterns and simple mathematical relationships.</td><td>20%–25%</td></tr>
</table>
</td></tr>
<tr><td>Cognitive Taxonomy</td><td>Dimensions of Thinking (Marzano et al.)</td></tr>
<tr><td>Stimulus Materials</td><td>Not specified</td></tr>
<tr><td>Other Specifications</td><td>NA</td></tr>
<tr><td colspan="2">Psychometric Properties</td></tr>
<tr><td>P-value</td><td>0.150 to 0.850, keep
0.100 to 0.149 or 0.851 to 0.900, reserve</td></tr>
<tr><td>Point-Biserial Correlation</td><td>Keep >= 0.250
Reserve >= 0.150 and < 0.25</td></tr>
<tr><td>Threshold</td><td>-2.5<keep<2.5
2.5≤reserve≤3.0</td></tr>
</table>

Dif Flags	.667<MH<1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Four-function calculator with memory key Graph paper and blank paper
Testing Window	Last four weeks of the school year • The tests must be administered as early in the school day as the school schedule permits. • Afternoon administrations of the ***NCEXTEND2*** Alternate Assessment for EOG are prohibited except for students who receive certain testing accommodations (e.g., scheduled extended time or multiple testing sessions). • All students at the same grade level within a school must be administered the appropriate end-of-grade test at the same time on the same day. • The calculator active part of the test must be administered before the calculator inactive part. • Testing grade levels in two subjects (i.e., science and reading, science and mathematics, or reading and mathematics) on one day is prohibited. • Students at different grade levels cannot be administered tests in the same classroom. • **The NCDPI requires that all students be allowed ample opportunity to complete the *NCEXTEND2* mathematics tests.** At the school level, provisions must be made for students who will need time beyond that scheduled to complete the tests.
Scoring	
Methods	Scanned and scored locally (NCDPI provided software)
Raw Scores	0–40

Scale Scores	TBD
Standard Setting	
Achievement Level Ranges & Descriptors	4 achievement levels **Achievement Level I** Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level. **Achievement Level II** Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level. **Achievement Level III** Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level. **Achievement Level IV** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.
Method	Contrasting groups, item mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Student report card, school report card, state report card
NCLB	Students with "persistent academic disabilities" can be deemed proficient using alternate assessments. There is a 2.0 percent cap on the number of students that can be deemed proficient when taking ***NCEXTEND2***.
Appropriate Use	Achievement Level III and above represent proficiency.
History of Development	
Stand Alone Field Test	Early Spring 2006, 3 forms with 40 items on each form

First Operational Test	(Later) Spring 2006

Grade 3 Objectives

Mathematics 2003 *Standard Course of Study*

GOAL 1 (Number and Operations): The learner will understand and compute with non-negative rational numbers. **35-40%**	
1.01	Develop number sense for whole numbers through 9,999.
1.02	Develop fluency with multi-digit addition and subtraction through 9,999 using: (a) Strategies for adding and subtracting numbers; (b) Estimation of sums and differences in appropriate situations; (c) Relationships between operations.
1.03	Develop fluency with multiplication from 1x1 to 12x12 and division up to two-digit by one-digit numbers using: (a) Strategies for multiplying and dividing numbers; (b) Estimation of products and quotients in appropriate situations; (c) Relationships between operations.
1.04	Use basic properties (identity, commutative, associative, order of operations) for addition, subtraction, multiplication, and division.
1.05	Use area or region models and set models of fractions to explore part-whole relationships.
1.06	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

GOAL 2 (Measurement): The learner will recognize and use standard units of metric and customary measure. **10-12%**	
2.01	Solve problems using measurement concepts and procedures involving: (a) Elapsed time; (b) Equivalent measures within the same measurement system.
2.02	Estimate and measure using appropriate units.

GOAL 3 (Geometry): The learner will understand and us properties and relationships of plane figures. **12-15%**	
3.01	Use appropriate vocabulary to compare, describe, and classify two- and three-dimensional figures.
3.02	Use rectangular coordinate system to solve problems.

GOAL 4: (Data Analysis and Probability) The learner will understand and use graphs and data analysis. **12-15%**

4.01	Collect, organize, analyze and display data (including circle graphs and tables) to solve problems.
4.02	Determine the number of permutations and combinations up to three items.
4.03	Solve probability problems using permutations and combinations.

GOAL 5 (Algebra) The learner will demonstrate an understanding of patterns, relationships, and elementary algebraic representation. **20-25%**	
5.01	Describe and extend numeric and geometric patterns.
5.02	Extend and find missing terms of repeating and growing patterns.
5.03	Use symbols to represent unknown quantities in number sentences.
5.04	Find the value of the unknown in a number sentence.

Test Specification Outline
***NCEXTEND2** EOG Grade 4 Mathematics*

Element	Comments
Purpose of the Test	***NCEXTEND2*** tests are alternate assessments designed to measure grade-level competencies of students with disabilities using modified achievement standards in a simplified multiple-choice format. The alternative assessments are implemented in response to the federal Individuals with Disabilities Education Act (IDEA) and the No Child Left Behind Act of 2001 (NCLB). As a component of the North Carolina Annual Testing Program, this test falls subject to General Statute §115C-174.10, which states the purposes of North Carolina state mandated tests are "(i) to assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a member of society, (ii) to provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and (iii) to establish additional means for making the education system at the state, local, and school levels accountable to the public for results."
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 4. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above.
Curriculum Cycle	Test is based on the 2003 North Carolina Mathematics *Standard Course of Study*.
Content of the Test	
Subject/Course & Grade	***NCEXTEND2*** Mathematics Grade 4
Alignment	The ***NCEXTEND2*** Alternate Assessment for EOG Mathematics at grade 4 assesses the 2003 North Carolina Mathematics *Standard Course of Study* (*SCS*). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 4 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. The assessment is a multiple-choice test with fewer items that utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** uses simplified language, and fewer test items and item responses (foils/answer choices) to assess students on grade-

	level content. ***NCEXTEND2*** provides access to the statewide testing program through a test design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 4.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	By Goal (See below; goal weighting matches the weighting for the regular EOG test.)
Obj. not/indirectly measured	2.01
Miscellaneous remarks	NA
Design	
Population	***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 4 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 4. To determine student participation in the ***NCEXTEND2*** EOG Mathematics Grade 4 test, the following eligibility requirements must be considered: • The student must have a current IEP; • The student **DOES NOT** have a current 504 plan; • The student, if identified as limited English proficient (LEP), must also have a current IEP; • The student **IS NOT** identified as having a significant cognitive disability; • The student **IS NOT** receiving instruction in the *SCS* through the Essences/Extensions; • The student's progress in response to high-quality instruction is such that the student is not likely to achieve grade level proficiency within the school year covered by

	the IEP; • The student's disability has precluded the student from achieving grade level proficiency, as demonstrated by objective evidence, (e.g., results from standardized state tests, IQ tests, achievement tests, aptitude tests, and psychological evaluations. **It is the expectation that more than one objective measure would be used to assist in the evaluation of a student's assessment placement.**); and • The nature of the student's disability may require assessments that are different in design.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic). Distractors must be plausible and the language must be clear and precise.
Delivery Mode	
Mode	Paper & pencil, online pending
Accommodations	As written in a student's IEP: Assistive Technology Devices, Braille, Braille Writer/Slate and Stylus, Cranmer Abacus, Dictation to Scribe, Home/Hospital Testing, Interpreter/Transliterator Signs/Cues Test, Keyboarding Devices, Large Print, Magnification Devices, Multiple Testing Sessions, One Test Item Per Page, Scheduled Extended Time, Student Reads Test Aloud to Self, Student Marks Answers in Test Book, Test Administrator Reads Test Aloud, Testing in Separate Room
Number of Items (Total)	40, including 27 calculator active and 13 calculator inactive
Operational	40
Embedded	0
By section	Sections 1 through 3 have 9 questions each, calculator active. Section 4 has 13 questions, calculator inactive
Time Limits	None. Estimated time is 88 minutes for the calculator active section (administered first) and 60 minutes for the calculator inactive section.

<table>
<tr><td>Universal Design</td><td>Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.</td></tr>
<tr><td colspan="2">Item & Test Characteristics</td></tr>
<tr><td>Item</td><td>Thinking Skill Levels: Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating

NCSCS Goal/Objective

Difficulty Level(a priori): Easy, Medium, and Hard</td></tr>
<tr><td>Test</td><td>
<table>
<tr><th>Goal</th><th>Description of Category</th><th>Average Percentage</th></tr>
<tr><td>1</td><td>The learner will read, write, model and compute with non-negative rational numbers.</td><td>35%–40%</td></tr>
<tr><td>2</td><td>The learner will understand and use perimeter and area.</td><td>10%–12%</td></tr>
<tr><td>3</td><td>The learner will recognize and use geometric properties and relationships.</td><td>10%–12%</td></tr>
<tr><td>4</td><td>The learner will understand and use graphs, probability, and data analysis.</td><td>15%–18%</td></tr>
<tr><td>5</td><td>The learner will demonstrate an understanding of mathematical relationships.</td><td>20%–25%</td></tr>
</table>
</td></tr>
<tr><td>Cognitive Taxonomy</td><td>Dimensions of Thinking (Marzano et al.)</td></tr>
<tr><td>Stimulus Materials</td><td>Not specified</td></tr>
<tr><td>Other Specifications</td><td>NA</td></tr>
<tr><td colspan="2">Psychometric Properties</td></tr>
<tr><td>P-value</td><td>0.150 to 0.850, keep
0.100 to 0.149 or 0.851 to 0.900, reserve</td></tr>
<tr><td>Point-Biserial Correlation</td><td>Keep >= 0.250
Reserve >= 0.150 and < 0.25</td></tr>
<tr><td>Threshold</td><td>-2.5<keep<2.5
2.5≤reserve≤3.0</td></tr>
</table>

Dif Flags	.667<MH<1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Four-function calculator with memory key Graph paper and blank paper
Testing Window	Last four weeks of the school year • The tests must be administered as early in the school day as the school schedule permits. • Afternoon administrations of the ***NCEXTEND2*** Alternate Assessment for EOG are prohibited except for students who receive certain testing accommodations (e.g., scheduled extended time or multiple testing sessions). • All students at the same grade level within a school must be administered the appropriate end-of-grade test at the same time on the same day. • The calculator active part of the test must be administered before the calculator inactive part. • Testing grade levels in two subjects (i.e., science and reading, science and mathematics, or reading and mathematics) on one day is prohibited. • Students at different grade levels cannot be administered tests in the same classroom. • **The NCDPI requires that all students be allowed ample opportunity to complete the *NCEXTEND2* mathematics tests.** At the school level, provisions must be made for students who will need time beyond that scheduled to complete the tests.
Scoring	
Methods	Scanned and scored locally (NCDPI provided software)
Raw Scores	0–40

Scale Scores	TBD
Standard Setting	
Achievement Level Ranges & Descriptors	4 achievement levels **Achievement Level I** Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level. **Achievement Level II** Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level. **Achievement Level III** Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level. **Achievement Level IV** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.
Method	Contrasting groups, item mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Student report card, school report card, state report card
NCLB	Students with "persistent academic disabilities" can be deemed proficient using alternate assessments. There is a 2.0 percent cap on the number of students that can be deemed proficient when taking ***NCEXTEND2***.
Appropriate Use	Achievement Level III and above represent proficiency.
History of Development	
Stand Alone Field Test	Early Spring 2006, 3 forms with 40 items on each form

First Operational Test	(Later) Spring 2006

Grade 4 Objectives

Mathematics 2003 *Standard Course of Study*

GOAL 1: (Numbers and Operations): The learner will understand and compute with non-negative rational numbers. **35%-40%**	
1.01	Develop number sense for rational numbers 0.01 through 99,999.
1.02	Develop fluency with multiplication and division.
1.03	Solve problems using models, diagrams, and reasoning about fractions and relationships among fractions involving halves, fourths, eighths, thirds, sixths, twelfths, fifths, tenths, hundredths, and missed numbers.
1.04	Develop fluency with addition and subtraction of non-negative rational numbers with like denominators, including decimal fractions through hundredths.
1.05	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

GOAL 2: (Measurement): The learner will understand and use perimeter and area. **10%-12%**	
2.01	Develop strategies to determine the area of rectangles and the perimeter of plane figures.
2.02	Solve problems involving perimeter of plane figures and area of rectangles.

GOAL 3: (Geometry): The learner recognize and use geometric properties and relationships. **10%-12%**	
3.01	Use the coordinate system to describe the location and relative position of points and draw figures in the first quadrant.
3.02	Describe the relative position of lines using concepts of parallelism and perpendicularity.
3.03	Identify, predict, and describe the results of transformations of plane figures.

GOAL 4: The learner will understand and use graphs, probability, and data analysis. **15%-18%**	
4.01	Collect, organize, analyze and display data (including line graphs and bar graphs) to solve problems.

4.02	Describe the distribution of data using median, range, and mode.
4.03	Solve problems by comparing two sets of related data.
4.04	Design experiments and list all possible outcomes and probabilities for an event.

GOAL 5: The learner will demonstrate an understanding of mathematical relationships. **20%-25%**	
5.01	Identify, describe, and generalize relationships in which: (a.) Quantities change proportionally and (b.) Change in one quantity relates to change in a second quantity.
5.02	Translate among symbolic, numeric, verbal, and pictorial representations of number relationships.
5.03	Verify mathematical relationships using: (a.) Models, words, and numbers and (b.) Order of operations and the identity, commutative, associative, and distributive properties.

Test Specification Outline
***NCEXTEND2** EOG Grade 5 Mathematics*

Element	Comments
Purpose of the Test	***NCEXTEND2*** tests are alternate assessments designed to measure grade-level competencies of students with disabilities using modified achievement standards in a simplified multiple-choice format. The alternative assessments are implemented in response to the federal Individuals with Disabilities Education Act (IDEA) and the No Child Left Behind Act of 2001 (NCLB). As a component of the North Carolina Annual Testing Program, this test falls subject to General Statute §115C-174.10, which states the purposes of North Carolina state mandated tests are "(i) to assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a member of society, (ii) to provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and (iii) to establish additional means for making the education system at the state, local, and school levels accountable to the public for results."
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 5. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above.
Curriculum Cycle	Test is based on the 2003 North Carolina Mathematics *Standard Course of Study*.
Content of the Test	
Subject/Course & Grade	***NCEXTEND2*** Mathematics Grade 5
Alignment	The ***NCEXTEND2*** Alternate Assessment for EOG Mathematics at grade 5 assesses the 2003 North Carolina Mathematics *Standard Course of Study* (*SCS*). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 5 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. The assessment is a multiple-choice test with fewer items that utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** uses simplified language, and fewer test items and item responses (foils/answer choices) to assess students on grade-

	level content. ***NCEXTEND2*** provides access to the statewide testing program through a test design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 5.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	By Goal (See below; goal weighting matches the weighting for the regular EOG test.)
Obj. not/indirectly measured	3.02
Miscellaneous remarks	NA
Design	
Population	***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 5 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 5. To determine student participation in the ***NCEXTEND2*** EOG Mathematics Grade 5 test, the following eligibility requirements must be considered: • The student must have a current IEP; • The student **DOES NOT** have a current 504 plan; • The student, if identified as limited English proficient (LEP), must also have a current IEP; • The student **IS NOT** identified as having a significant cognitive disability; • The student **IS NOT** receiving instruction in the *SCS* through the Essences/Extensions; • The student's progress in response to high-quality instruction is such that the student is not likely to achieve grade-level proficiency within the school year covered by

	the IEP; • The student's disability has precluded the student from achieving grade-level proficiency, as demonstrated by objective evidence, (e.g., results from standardized state tests, IQ tests, achievement tests, aptitude tests, and psychological evaluations. **It is the expectation that more than one objective measure would be used to assist in the evaluation of a student's assessment placement.**); and • The nature of the student's disability may require assessments that are different in design.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic). Distractors must be plausible and the language must be clear and precise.
Delivery Mode	
Mode	Paper & pencil, online pending
Accommodations	As written in a student's IEP: Assistive Technology Devices, Braille, Braille Writer/Slate and Stylus, Cranmer Abacus, Dictation to Scribe, Home/Hospital Testing, Interpreter/Transliterator Signs/Cues Test, Keyboarding Devices, Large Print, Magnification Devices, Multiple Testing Sessions, One Test Item Per Page, Scheduled Extended Time, Student Reads Test Aloud to Self, Student Marks Answers in Test Book, Test Administrator Reads Test Aloud, Testing in Separate Room
Number of Items (Total)	40, including 27 calculator active and 13 calculator inactive
Operational	40
Embedded	0
By section	Sections 1 through 3 have 9 questions each, calculator active. Section 4 has 13 questions, calculator inactive
Time Limits	None. Estimated time is 88 minutes for the calculator active section (administered first) and 60 minutes for the calculator inactive section.

<table>
<tr><td>Universal Design</td><td>Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.</td></tr>
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<tr><td>Item</td><td>Thinking Skill Levels: Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating

NCSCS Goal/Objective

Difficulty Level(a priori): Easy, Medium, and Hard</td></tr>
<tr><td>Test</td><td>
<table>
<tr><th>Goal</th><th>Description of Category</th><th>Average Percentage</th></tr>
<tr><td>1</td><td>The learner will understand and compute with non-negative rational numbers.</td><td>20%–25%</td></tr>
<tr><td>2</td><td>The learner will recognize and use standard units of metric and customary measure.</td><td>10%–15%</td></tr>
<tr><td>3</td><td>The learner will understand and use properties and relationships of plane figures.</td><td>25%–30%</td></tr>
<tr><td>4</td><td>The learner will understand and use graphs and data analysis.</td><td>10%–15%</td></tr>
<tr><td>5</td><td>The learner will demonstrate an understanding of patterns, relationships, and elementary algebraic representation.</td><td>20%–25%</td></tr>
</table>
</td></tr>
<tr><td>Cognitive Taxonomy</td><td>Dimensions of Thinking (Marzano et al.)</td></tr>
<tr><td>Stimulus Materials</td><td>Not specified</td></tr>
<tr><td>Other Specifications</td><td>NA</td></tr>
<tr><td colspan="2">Psychometric Properties</td></tr>
<tr><td>P-value</td><td>0.150 to 0.850, keep
0.100 to 0.149 or 0.851 to 0.900, reserve</td></tr>
<tr><td>Point-Biserial Correlation</td><td>Keep >= 0.250
Reserve >= 0.150 and < 0.25</td></tr>
<tr><td>Threshold</td><td>-2.5<keep<2.5
2.5≤reserve≤3.0</td></tr>
</table>

Dif Flags	.667<MH<1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Four-function calculator with memory key Graph paper and blank paper
Testing Window	Last four weeks of the school year • The tests must be administered as early in the school day as the school schedule permits. • Afternoon administrations of the ***NCEXTEND2*** Alternate Assessment for EOG are prohibited except for students who receive certain testing accommodations (e.g., scheduled extended time or multiple testing sessions). • All students at the same grade level within a school must be administered the appropriate end-of-grade test at the same time on the same day. • The calculator active part of the test must be administered before the calculator inactive part. • Testing grade levels in two subjects (i.e., science and reading, science and mathematics, or reading and mathematics) on one day is prohibited. • Students at different grade levels cannot be administered tests in the same classroom. • **The NCDPI requires that all students be allowed ample opportunity to complete the *NCEXTEND2* mathematics tests.** At the school level, provisions must be made for students who will need time beyond that scheduled to complete the tests.
Scoring	
Methods	Scanned and scored locally (NCDPI-provided software)
Raw Scores	0–40

Scale Scores	TBD
Standard Setting	
Achievement Level Ranges & Descriptors	4 achievement levels **Achievement Level I** Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level. **Achievement Level II** Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level. **Achievement Level III** Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level. **Achievement Level IV** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.
Method	Contrasting groups, item mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Student report card, school report card, state report card
NCLB	Students with "persistent academic disabilities" can be deemed proficient using alternate assessments. There is a 2.0% cap on the number of students that can be deemed proficient when taking ***NCEXTEND2***.
Appropriate Use	Achievement Level III and above represent proficiency.
History of Development	
Stand Alone Field Test	Early Spring 2006, 3 forms with 40 items on each form

First Operational Test	(Later) Spring 2006

Grade 5 Objectives

Mathematics 2003 Standard Course of Study

GOAL 1: The learner will understand and compute with non-negative rational numbers. **20%-25%**	
1.01	Develop number sense for rational numbers 0.001 through 999,999.
1.02	Develop fluency in adding and subtracting non-negative rational numbers (halves, fourths, eighths; thirds, sixths, twelfths; fifths, tenths, hundredths, thousandths; mixed numbers).
1.03	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

GOAL 2: The learner will recognize and use standard units of metric and customary measure. **10%-15%**	
2.01	Estimate the measure of an object in one system given the measure of that object in another system.
2.02	Identify, estimate, and measure the angles of plane figures using appropriate tools.

GOAL 3: The learner will understand and us properties and relationships of plane figures. **25%-30%**	
3.01	Identify, define, describe and accurately represent triangles, quadrilaterals, and other polygons.
3.02	Make and test conjectures about polygons.
3.03	Classify plane figures according to types of symmetry (line, rotational).
3.04	Solve problems involving the properties of triangles, quadrilaterals, and other polygons.

GOAL 4: The learner will understand and use graphs and data analysis. **10%-15%**	
4.01	Collect, organize, analyze and display data (including stem-and-leaf plots) to solve problems.
4.02	Compare and contrast different representations of the same data; discuss the effectiveness of each.
4.03	Solve problems with data from a single set or multiple sets of data, using median, range, and mode.

GOAL 5: The learner will demonstrate an understanding of patterns, relationships, and elementary algebraic representation. **20%-25%**	
5.01	Describe, extend, and generalize numeric and geometric patterns using tables, graphs, words, and symbols.
5.02	Use algebraic expressions, patterns, and one-step equations and inequalities to solve problems.
5.03	Identify, describe, and analyze situations with constant or varying rates of change.

Test Specification Outline
***NCEXTEND2** EOG Grade 6 Mathematics*

Element	Comments
Purpose of the Test	***NCEXTEND2*** tests are alternate assessments designed to measure grade-level competencies of students with disabilities using modified achievement standards in a simplified multiple-choice format. The alternative assessments are implemented in response to the federal Individuals with Disabilities Education Act (IDEA) and the No Child Left Behind Act of 2001 (NCLB). As a component of the North Carolina Annual Testing Program, this test falls subject to General Statute §115C-174.10, which states the purposes of North Carolina state mandated tests are "(i) to assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a member of society, (ii) to provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and (iii) to establish additional means for making the education system at the state, local, and school levels accountable to the public for results."
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 6. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above.
Curriculum Cycle	Test is based on the 2003 North Carolina Mathematics *Standard Course of Study*.
Content of the Test	
Subject/Course & Grade	***NCEXTEND2*** Mathematics Grade 6
Alignment	The ***NCEXTEND2*** Alternate Assessment for EOG Mathematics at grade 6 assesses the 2003 North Carolina Mathematics *Standard Course of Study* (*SCS*). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 6 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. The assessment is a multiple-choice test with fewer items that utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** uses simplified language, and fewer test items and item responses (foils/answer choices) to assess students on grade-

	level content. ***NCEXTEND2*** provides access to the statewide testing program through a test design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 6.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	By Goal (See below; goal weighting matches the weighting for the regular EOG test.)
Obj. not/indirectly measured	1.07, 4.02, 4.03
Miscellaneous remarks	NA
Design	
Population	***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 6 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 6. To determine student participation in the ***NCEXTEND2*** EOG Mathematics Grade 6 test, the following eligibility requirements must be considered: • The student must have a current IEP; • The student **DOES NOT** have a current 504 plan; • The student, if identified as limited English proficient (LEP), must also have a current IEP; • The student **IS NOT** identified as having a significant cognitive disability; • The student **IS NOT** receiving instruction in the *SCS* through the Essences/Extensions; • The student's progress in response to high-quality instruction is such that the student is not likely to achieve grade level proficiency within the school year covered by

	the IEP; • The student's disability has precluded the student from achieving grade level proficiency, as demonstrated by objective evidence, (e.g., results from standardized state tests, IQ tests, achievement tests, aptitude tests, and psychological evaluations. **It is the expectation that more than one objective measure would be used to assist in the evaluation of a student's assessment placement.**); and • The nature of the student's disability may require assessments that are different in design.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic). Distractors must be plausible and the language must be clear and precise.
Delivery Mode	
Mode	Paper & pencil, online pending
Accommodations	As written in a student's IEP: Assistive Technology Devices, Braille, Braille Writer/Slate and Stylus, Cranmer Abacus, Dictation to Scribe, Home/Hospital Testing, Interpreter/Transliterator Signs/Cues Test, Keyboarding Devices, Large Print, Magnification Devices, Multiple Testing Sessions, One Test Item Per Page, Scheduled Extended Time, Student Reads Test Aloud to Self, Student Marks Answers in Test Book, Test Administrator Reads Test Aloud, Testing in Separate Room
Number of Items (Total)	40, including 27 calculator active and 13 calculator inactive
Operational	40
Embedded	0
By section	Sections 1 through 3 have 9 questions each, calculator active. Section 4 has 13 questions, calculator inactive.
Time Limits	None. Estimated time is 88 minutes for the calculator active section (administered first) and 60 minutes for the calculator inactive section.

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<tr><td>Item</td><td>Thinking Skill Levels: Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating

NCSCS Goal/Objective

Difficulty Level(a priori): Easy, Medium, and Hard</td></tr>
<tr><td>Test</td><td>
<table>
<tr><th>Goal</th><th>Description of Category</th><th>Average Percentage</th></tr>
<tr><td>1</td><td>The learner will understand and compute with rational numbers.</td><td>20%–25%</td></tr>
<tr><td>2</td><td>The learner will select and use appropriate tools to measure two- and three-dimensional figures.</td><td>10%–15%</td></tr>
<tr><td>3</td><td>The learner will understand and use properties and relationships of geometric figures in the coordinate plane.</td><td>15%–20%</td></tr>
<tr><td>4</td><td>The learner will understand determine probabilities.</td><td>20%–25%</td></tr>
<tr><td>5</td><td>The learner will demonstrate an understanding of simple algebraic expressions.</td><td>20%–25%</td></tr>
</table>
</td></tr>
<tr><td>Cognitive Taxonomy</td><td>Dimensions of Thinking (Marzano et al.)</td></tr>
<tr><td>Stimulus Materials</td><td>Not specified</td></tr>
<tr><td>Other Specifications</td><td>NA</td></tr>
<tr><td colspan="2">Psychometric Properties</td></tr>
<tr><td>P-value</td><td>0.150 to 0.850, keep
0.100 to 0.149 or 0.851 to 0.900, reserve</td></tr>
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Reserve >= 0.150 and < 0.25</td></tr>
<tr><td>Threshold</td><td>-2.5<keep<2.5
2.5≤reserve≤3.0</td></tr>
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Dif Flags	.667<MH<1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Four-function calculator with memory key Graph paper and blank paper
Testing Window	Last four weeks of the school year • The tests must be administered as early in the school day as the school schedule permits. • Afternoon administrations of the ***NCEXTEND2*** Alternate Assessment for EOG are prohibited except for students who receive certain testing accommodations (e.g., scheduled extended time or multiple testing sessions). • All students at the same grade level within a school must be administered the appropriate end-of-grade test at the same time on the same day. • The calculator active part of the test must be administered before the calculator inactive part. • Testing grade levels in two subjects (i.e., science and reading, science and mathematics, or reading and mathematics) on one day is prohibited. • Students at different grade levels cannot be administered tests in the same classroom. • **The NCDPI requires that all students be allowed ample opportunity to complete the *NCEXTEND2* mathematics tests.** At the school level, provisions must be made for students who will need time beyond that scheduled to complete the tests.
Scoring	
Methods	Scanned and scored locally (NCDPI-provided software)
Raw Scores	0–40

Scale Scores	TBD
Standard Setting	
Achievement Level Ranges & Descriptors	4 achievement levels **Achievement Level I** Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level. **Achievement Level II** Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level. **Achievement Level III** Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level. **Achievement Level IV** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.
Method	Contrasting groups, item mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Student report card, school report card, state report card
NCLB	Students with "persistent academic disabilities" can be deemed proficient using alternate assessments. There is a 2.0 percent cap on the number of students that can be deemed proficient when taking ***NCEXTEND2***.
Appropriate Use	Achievement Level III and above represent proficiency.
History of Development	
Stand Alone Field Test	Early Spring 2006, 3 forms with 40 items on each form

First Operational Test	(Later) Spring 2006

Grade 6 Objectives

Mathematics 2003 Standard Course of Study

COMPETENCY GOAL 1 (Number and Operations, 20%–25%): The learner will understand and compute with rational numbers.

Objectives

1.01 Develop number sense for negative rational numbers.
   a. Connect the model, number word, and number using a variety of representations, including the number line.
   b. Compare and order.
   c. Make estimates in appropriate situations.

1.02 Develop meaning for percents.
   a. Connect the model, number word, and number using a variety of representations.
   b. Make estimates in appropriate situations.

1.03 Compare and order rational numbers.

1.04 Develop fluency in addition, subtraction, multiplication, and division of non-negative rational numbers.
   a. Analyze computational strategies.
   b. Describe the effect of operations on size.
   c. Estimate the results of computations.
   d. Judge the reasonableness of solutions.

1.05 Develop fluency in the use of factors, multiples, exponential notation, and prime factorization.

1.06 Use exponential, scientific, and calculator notation to write very large and very small numbers.

1.07 Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

COMPETENCY GOAL 2 (Measurement, 10%–15%): The learner will select and use appropriate tools to measure two- and three-dimensional figures.

Objectives

2.01 Estimate and measure length, perimeter, area, angles, weight, and mass of two- and three-dimensional figures, using appropriate tools.

2.02 Solve problems involving perimeter/circumference and area of plane figures.

COMPETENCY GOAL 3 (Geometry, 15%–20%): The learner will understand and use properties and relationships of geometric figures in the coordinate plane.

Objectives

3.01 Identify and describe the intersection of figures in a plane.

3.02 Identify the radius, diameter, chord, center, and circumference of a circle; determine the relationships among them.

3.03 Transform figures in the coordinate plane and describe the transformation.

Solve problems involving geometric figures in the coordinate plane.

COMPETENCY GOAL 4 (Data Analysis and Probability, 20%–25%): The learner will understand and determine probabilities.

Objectives

4.01 Develop fluency with counting strategies to determine the sample space for an event. Include lists, tree diagrams, frequency distribution tables, permutations, combinations, and the Fundamental Counting Principle.

4.02 Use a sample space to determine the probability of an event.

4.03 Conduct experiments involving simple and compound events.

4.04 Determine and compare experimental and theoretical probabilities for simple and compound events.

4.05 Determine and compare experimental and theoretical probabilities for independent and dependent events.

4.06 Design and conduct experiments or surveys to solve problems; report and analyze results.

COMPETENCY GOAL 5 (Algebra, 20–25%): The learner will demonstrate an understanding of simple algebraic expressions.

Objectives

5.01 Simplify algebraic expressions and verify the results using the basic properties of rational numbers.
a. Identity.

b. Commutative.
c. Associative.
d. Distributive.
e. Order of operations.

5.02 Use and evaluate algebraic expressions.

5.03 Solve simple (one- and two-step) equations or inequalities.

5.04 Use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Test Specification Outline
***NCEXTEND2** EOG Grade 7 Mathematics*

Element	Comments
Purpose of the Test	***NCEXTEND2*** tests are alternate assessments designed to measure grade-level competencies of students with disabilities using modified achievement standards in a simplified multiple-choice format. The alternative assessments are implemented in response to the federal Individuals with Disabilities Education Act (IDEA) and the No Child Left Behind Act of 2001 (NCLB). As a component of the North Carolina Annual Testing Program, this test falls subject to General Statute §115C-174.10, which states the purposes of North Carolina state mandated tests are "(i) to assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a member of society, (ii) to provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and (iii) to establish additional means for making the education system at the state, local, and school levels accountable to the public for results."
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 7. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above.
Curriculum Cycle	Test is based on the 2003 North Carolina Mathematics *Standard Course of Study*.
Content of the Test	
Subject/Course & Grade	***NCEXTEND2*** Mathematics Grade 7
Alignment	The ***NCEXTEND2*** Alternate Assessment for EOG Mathematics at grade 7 assesses the 2003 North Carolina Mathematics *Standard Course of Study* (*SCS*). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 7 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. The assessment is a multiple-choice test with fewer items that utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** uses simplified language, and fewer test items and item responses (foils/answer choices) to assess students on grade-

	level content. ***NCEXTEND2*** provides access to the statewide testing program through a test design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 7.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	By Goal (See below; goal weighting matches the weighting for the regular EOG test.)
Obj. not/indirectly measured	1.03
Miscellaneous remarks	NA
Design	
Population	***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 7 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 7. To determine student participation in the ***NCEXTEND2 EOG*** Mathematics Grade 7 test, the following eligibility requirements must be considered: • The student must have a current IEP; • The student **DOES NOT** have a current 504 plan; • The student, if identified as limited English proficient (LEP), must also have a current IEP; • The student **IS NOT** identified as having a significant cognitive disability; • The student **IS NOT** receiving instruction in the *SCS* through the Essences/Extensions; • The student's progress in response to high-quality instruction is such that the student is not likely to achieve grade level proficiency within the school year covered by

	the IEP; • The student's disability has precluded the student from achieving grade level proficiency, as demonstrated by objective evidence, (e.g., results from standardized state tests, IQ tests, achievement tests, aptitude tests, and psychological evaluations. **It is the expectation that more than one objective measure would be used to assist in the evaluation of a student's assessment placement.**); and • The nature of the student's disability may require assessments that are different in design.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic). Distractors must be plausible and the language must be clear and precise.
Delivery Mode	
Mode	Paper & pencil, online pending
Accommodations	As written in a student's IEP: Assistive Technology Devices, Braille, Braille Writer/Slate and Stylus, Cranmer Abacus, Dictation to Scribe, Home/Hospital Testing, Interpreter/Transliterator Signs/Cues Test, Keyboarding Devices, Large Print, Magnification Devices, Multiple Testing Sessions, One Test Item Per Page, Scheduled Extended Time, Student Reads Test Aloud to Self, Student Marks Answers in Test Book, Test Administrator Reads Test Aloud, Testing in Separate Room
Number of Items (Total)	40, including 27 calculator active and 13 calculator inactive
Operational	40
Embedded	0
By section	Sections 1 through 3 have 9 questions each, calculator active. Section 4 has 13 questions, calculator inactive.
Time Limits	None. Estimated time is 88 minutes for the calculator active section (administered first) and 60 minutes for the calculator inactive section.

<table>
<tr><td>Universal Design</td><td>Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.</td></tr>
<tr><td colspan="2">Item & Test Characteristics</td></tr>
<tr><td>Item</td><td>Thinking Skill Levels: Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating

NCSCS Goal/Objective

Difficulty Level(a priori): Easy, Medium, and Hard</td></tr>
<tr><td>Test</td><td>
<table>
<tr><th>Goal</th><th>Description of Category</th><th>Average Percentage</th></tr>
<tr><td>1</td><td>The learner will understand and compute with rational numbers.</td><td>20%–25%</td></tr>
<tr><td>2</td><td>The learner will understand and use measurement involving two- and three-dimensional figures.</td><td>10%–15%</td></tr>
<tr><td>3</td><td>The learner will understand and use properties and relationships in geometry.</td><td>20%–25%</td></tr>
<tr><td>4</td><td>The learner will understand and use graphs and data analysis.</td><td>20%–25%</td></tr>
<tr><td>5</td><td>The learner will demonstrate an understanding linear relations and fundamental algebraic concepts.</td><td>25%–30%</td></tr>
</table>
</td></tr>
<tr><td>Cognitive Taxonomy</td><td>Dimensions of Thinking (Marzano et al.)</td></tr>
<tr><td>Stimulus Materials</td><td>Not specified</td></tr>
<tr><td>Other Specifications</td><td>NA</td></tr>
<tr><td colspan="2">Psychometric Properties</td></tr>
<tr><td>P-value</td><td>0.150 to 0.850, keep
0.100 to 0.149 or 0.851 to 0.900, reserve</td></tr>
<tr><td>Point-Biserial Correlation</td><td>Keep >= 0.250
Reserve >= 0.150 and < 0.25</td></tr>
<tr><td>Threshold</td><td>-2.5<keep<2.5
2.5≤reserve≤3.0</td></tr>
</table>

Dif Flags	.667<MH<1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Four-function calculator with memory key Graph paper and blank paper
Testing Window	Last four weeks of the school year • The tests must be administered as early in the school day as the school schedule permits. • Afternoon administrations of the ***NCEXTEND2*** Alternate Assessment for EOG are prohibited except for students who receive certain testing accommodations (e.g., scheduled extended time or multiple testing sessions). • All students at the same grade level within a school must be administered the appropriate end-of-grade test at the same time on the same day. • The calculator active part of the test must be administered before the calculator inactive part. • Testing grade levels in two subjects (i.e., science and reading, science and mathematics, or reading and mathematics) on one day is prohibited. • Students at different grade levels cannot be administered tests in the same classroom. • **The NCDPI requires that all students be allowed ample opportunity to complete the *NCEXTEND2* mathematics tests.** At the school level, provisions must be made for students who will need time beyond that scheduled to complete the tests.
Scoring	
Methods	Scanned and scored locally (NCDPI-provided software)
Raw Scores	0–40

Scale Scores	TBD
Standard Setting	
Achievement Level Ranges & Descriptors	4 achievement levels **Achievement Level I** Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level. **Achievement Level II** Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level. **Achievement Level III** Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level. **Achievement Level IV** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.
Method	Contrasting groups, item mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Student report card, school report card, state report card
NCLB	Students with "persistent academic disabilities" can be deemed proficient using alternate assessments. There is a 2.0% cap on the number of students that can be deemed proficient when taking ***NCEXTEND2***.
Appropriate Use	Achievement Level III and above represent proficiency.
History of Development	
Stand Alone Field Test	Early Spring 2006, 3 forms with 40 items on each form

First Operational Test	(Later) Spring 2006

Grade 7 Objectives

Mathematics 2003 Standard Course of Study

COMPETENCY GOAL 1 (Number and Operations, 20%–25%): The learner will understand and compute with rational numbers.

Objectives

1.01 Develop and use ratios, proportions, and percents to solve problems.

1.02 Develop fluency in addition, subtraction, multiplication, and division of rational numbers.
   a. Analyze computational strategies.
   b. Describe the effect of operations on size.
   c. Estimate the results of computations.
   d. Judge the reasonableness of solutions.

1.03 Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

COMPETENCY GOAL 2 (Measurement, 10%–15%): The learner will understand and use measurement involving two- and three-dimensional figures.

Objectives

2.01 Draw objects to scale and use scale drawings to solve problems.

2.02 Solve problems involving volume and surface area of cylinders, prisms, and composite shapes.

COMPETENCY GOAL 3 (Geometry, 20-25%): The learner will understand and use properties and relationships in geometry.

Objectives

3.01 Using three-dimensional figures:
   a. Identify, describe, and draw from various views (top, side, front, corner).
   b. Build from various views.
   c. Describe cross-sectional views.

Identify, define, and describe similar and congruent polygons with respect to angle measures, length of sides, and proportionality of sides.

Use scaling and proportional reasoning to solve problems related to similar and congruent polygons.

COMPETENCY GOAL 4 (Data Analysis and Probability, 20-25%): The learner will understand and use graphs and data analysis.

Objectives

4.01 Collect, organize, analyze, and display data (including box plots and histograms) to solve problems.

4.02 Calculate, use, and interpret the mean, median, mode, range, frequency distribution, and inter-quartile range for a set of data.

4.03 Describe how the mean, median, mode, range, frequency distribution, and inter-quartile range of a set of data affect its graph.

4.04 Identify outliers and determine their effect on the mean, median, mode, and range of a set of data.

4.05 Solve problems involving two or more sets of data using appropriate statistical measures.

COMPETENCY GOAL 5 (Algebra, 25-30%): The learner will demonstrate an understanding of linear relations and fundamental algebraic concepts.

Objectives

5.01 Identify, analyze, and create linear relations, sequences, and functions using symbols, graphs, tables, diagrams, and written descriptions.

5.02 Translate among different representations of algebraic expressions, equations and inequalities.

5.03 Use and evaluate algebraic expressions, linear equations or inequalities to solve problems.

5.04 Develop fluency in the use of formulas to solve problems.

Test Specification Outline
***NCEXTEND2** EOG Grade 8 Mathematics*

Element	Comments
Purpose of the Test	***NCEXTEND2*** tests are alternate assessments designed to measure grade-level competencies of students with disabilities using modified achievement standards in a simplified multiple-choice format. The alternative assessments are implemented in response to the federal Individuals with Disabilities Education Act (IDEA) and the No Child Left Behind Act of 2001 (NCLB). As a component of the North Carolina Annual Testing Program, this test falls subject to General Statute §115C-174.10, which states the purposes of North Carolina state mandated tests are "(i) to assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a member of society, (ii) to provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and (iii) to establish additional means for making the education system at the state, local, and school levels accountable to the public for results."
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 8. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above.
Curriculum Cycle	Test is based on the 2003 North Carolina Mathematics *Standard Course of Study*.
Content of the Test	
Subject/Course & Grade	***NCEXTEND2*** Mathematics Grade 8
Alignment	The ***NCEXTEND2*** Alternate Assessment for EOG Mathematics at grade 8 assesses the 2003 North Carolina Mathematics *Standard Course of Study* (*SCS*). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 8 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. The assessment is a multiple-choice test with fewer items that utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** uses simplified language, and fewer test items and item responses (foils/answer choices) to assess students on grade-

	level content. ***NCEXTEND2*** provides access to the statewide testing program through a test design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 8.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	By Goal (See below; goal weighting matches the weighting for the regular EOG test.)
Obj. not/indirectly measured	1.02
Miscellaneous remarks	NA
Design	
Population	***NCEXTEND2*** Alternate Assessment for EOG Mathematics Grade 8 is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. ***NCEXTEND2*** Alternate Assessment for EOG Mathematics will be administered to students whose Individualized Education Program (IEP) designates ***NCEXTEND2*** as the appropriate assessment for end-of-grade mathematics at grade 8. To determine student participation in the ***NCEXTEND2*** EOG Mathematics Grade 8 test, the following eligibility requirements must be considered: • The student must have a current IEP; • The student **DOES NOT** have a current 504 plan; • The student, if identified as limited English proficient (LEP), must also have a current IEP; • The student **IS NOT** identified as having a significant cognitive disability; • The student **IS NOT** receiving instruction in the *SCS* through the Essences/Extensions; • The student's progress in response to high-quality instruction is such that the student is not likely to achieve grade level proficiency within the school year covered by

	the IEP; • The student's disability has precluded the student from achieving grade level proficiency, as demonstrated by objective evidence, (e.g., results from standardized state tests, IQ tests, achievement tests, aptitude tests, and psychological evaluations. **It is the expectation that more than one objective measure would be used to assist in the evaluation of a student's assessment placement.**); and • The nature of the student's disability may require assessments that are different in design.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic). Distractors must be plausible and the language must be clear and precise.
Delivery Mode	
Mode	Paper & pencil, online pending
Accommodations	As written in a student's IEP: Assistive Technology Devices, Braille, Braille Writer/Slate and Stylus, Cranmer Abacus, Dictation to Scribe, Home/Hospital Testing, Interpreter/Transliterator Signs/Cues Test, Keyboarding Devices, Large Print, Magnification Devices, Multiple Testing Sessions, One Test Item Per Page, Scheduled Extended Time, Student Reads Test Aloud to Self, Student Marks Answers in Test Book, Test Administrator Reads Test Aloud, Testing in Separate Room
Number of Items (Total)	40, all calculator active
Operational	40
Embedded	0
By section	Sections 1 through 4 have 10 questions each, all calculator active.
Time Limits	None. Estimated time is 108 minutes.

<table>
<tr><td>Universal Design</td><td>Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.</td></tr>
<tr><td colspan="2">Item & Test Characteristics</td></tr>
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NCSCS Goal/Objective

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<tr><td>Test</td><td>
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<tr><th>Goal</th><th>Description of Category</th><th>Average Percentage</th></tr>
<tr><td>1</td><td>The learner will understand and compute with non-negative rational numbers.</td><td>10%–15%</td></tr>
<tr><td>2</td><td>The learner will recognize and use standard units of metric and customary measure.</td><td>10%–15%</td></tr>
<tr><td>3</td><td>The learner will understand and use properties and relationships of plane figures.</td><td>10%–15%</td></tr>
<tr><td>4</td><td>The learner will understand and use graphs and data analysis.</td><td>20%–25%</td></tr>
<tr><td>5</td><td>The learner will demonstrate an understanding of patterns, relationships, and elementary algebraic representation.</td><td>35%–40%</td></tr>
</table>
</td></tr>
<tr><td>Cognitive Taxonomy</td><td>Dimensions of Thinking (Marzano et al.)</td></tr>
<tr><td>Stimulus Materials</td><td>Not specified</td></tr>
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<tr><td>P-value</td><td>0.150 to 0.850, keep
0.100 to 0.149 or 0.851 to 0.900, reserve</td></tr>
<tr><td>Point-Biserial Correlation</td><td>Keep >= 0.250
Reserve >= 0.150 and < 0.25</td></tr>
<tr><td>Threshold</td><td>-2.5<keep<2.5
2.5≤reserve≤3.0</td></tr>
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Dif Flags	.667<MH<1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Four-function calculator with memory key Graph paper and blank paper
Testing Window	Last four weeks of the school year • The tests must be administered as early in the school day as the school schedule permits. • Afternoon administrations of the ***NCEXTEND2*** Alternate Assessment for EOG are prohibited except for students who receive certain testing accommodations (e.g., scheduled extended time or multiple testing sessions). • All students at the same grade level within a school must be administered the appropriate end-of-grade test at the same time on the same day. • The calculator active part of the test must be administered before the calculator inactive part. • Testing grade levels in two subjects (i.e., science and reading, science and mathematics, or reading and mathematics) on one day is prohibited. • Students at different grade levels cannot be administered tests in the same classroom. • **The NCDPI requires that all students be allowed ample opportunity to complete the *NCEXTEND2* mathematics tests.** At the school level, provisions must be made for students who will need time beyond that scheduled to complete the tests.
Scoring	
Methods	Scanned and scored locally (NCDPI-provided software)
Raw Scores	0–40

Scale Scores	TBD
Standard Setting	
Achievement Level Ranges & Descriptors	4 achievement levels **Achievement Level I** Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level. **Achievement Level II** Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level. **Achievement Level III** Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level. **Achievement Level IV** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.
Method	Contrasting groups, item mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Student report card, school report card, state report card
NCLB	Students with "persistent academic disabilities" can be deemed proficient using alternate assessments. There is a 2.0 percent cap on the number of students that can be deemed proficient when taking ***NCEXTEND2***.
Appropriate Use	Achievement Level III and above represent proficiency.
History of Development	
Stand Alone Field Test	Early Spring 2006, 3 forms with 40 items on each form

First Operational Test	(Later) Spring 2006

Grade 8 Objectives

Mathematics 2003 Standard Course of Study

COMPETENCY GOAL 1 (Number and Operations, 10%–15%): The learner will understand and compute with real numbers.

Objectives

1.01 Develop number sense for the real numbers.
   a. Define and use irrational numbers.
   b. Compare and order.
   c. Use estimates of irrational numbers in appropriate situations.

1.02 Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

COMPETENCY GOAL 2 (Measurement, 10%–15%): The learner will understand and use measurement concepts.

Objectives

2.01 Determine the effect on perimeter, area or volume when one or more dimensions of two- and three-dimensional figures are changed.

2.02 Apply and use concepts of indirect measurement.

COMPETENCY GOAL 3 (Geometry, 10%–15%): The learner will understand and use properties and relationships in geometry.

Objectives

3.01 Represent problem situations with geometric models.

3.02 Apply geometric properties and relationships, including the Pythagorean theorem, to solve problems.

Identify, predict, and describe dilations in the coordinate plane.

COMPETENCY GOAL 4 (Data Analysis and Probability, 20%–25%): The learner will understand and use graphs and data analysis.

Objectives

4.01 Collect, organize, analyze, and display data (including scatterplots) to solve problems.

4.02 Approximate a line of best fit for a given scatterplot; explain the meaning of the line as it relates to the problem and make predictions.

4.03 Identify misuses of statistical and numerical data.

COMPETENCY GOAL 5 (Algebra, 35%–40%): The learner will understand and use linear relations and functions.

Objectives

5.01 Develop an understanding of function.

a. Translate among verbal, tabular, graphic, and algebraic representations of functions.
b. Identify relations and functions as linear or nonlinear.
c. Find, identify, and interpret the slope (rate of change) and intercepts of a linear relation.
d. Interpret and compare properties of linear functions from tables, graphs, or equations.

5.02 Write an equation of a linear relationship given: two points, the slope and one point on the line, or the slope and *y*-intercept.

5.03 Solve problems using linear equations and inequalities; justify symbolically and graphically.

5.04 Solve equations using the inverse relationships of addition and subtraction, multiplication and division, squares and square roots, and cubes and cube roots.

Test Specification Outline
OCS Occupational Mathematics

Element	Comments
Purpose of the Test	The North Carolina Alternate Assessment for High School Mathematics will be used to meet the requirements of the No Child Left Behind Act of 2001 to assess mathematics for high school students enrolled in the Occupational Course of Study. The North Carolina Department of Public Instruction has determined that the North Carolina End-of-Course Test of Algebra I is an appropriate assessment only for students enrolled in the *Standard Course of Study* course for Algebra I. Some special populations of students are enrolled in Algebra I and take the North Carolina End-of-Course Test of Algebra I with individualized instruction, extensive accommodations, and supplemental aids and services. The Occupational Mathematics courses were designed for some students with cognitive disabilities whose academic needs can best be met through the Occupational Course of Study. The North Carolina End-of-Course Test of Algebra I is required by the North Carolina General Statute 115C-174.10 as a component of the North Carolina Annual Testing Program. It is a curriculum-based multiple-choice test specifically aligned to North Carolina's *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students. The purposes of the end-of-course tests are: 2. to assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a member of society, 3. to provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and 4. to establish additional means for making the education system at the State, local, and school levels accountable to the public for results. The End-of-Course Test of Algebra I is North Carolina's measurement of Annual Yearly Progress for students in three of the four courses of study at the high school level for the No Child Left Behind Act of 2001. Students usually take Algebra I in the ninth grade. Algebra I is required for high school graduation for students in the three courses of study approved by the North Carolina State Board of Education in August 1999: Career Preparation, College Technical Preparation, and

	College/University Preparation. See Appendix I for the graduation requirements for all four North Carolina courses of study. (http://www.ncpublicschools.org/curriculum/graduation) The Occupational Course of Study is an applied academic course of study available to a limited number of students with cognitive disabilities. Occupational Math I is a year-long course that allows students with disabilities (SWD) to access the general curriculum. Students enrolled in Occupational Mathematics develop functional knowledge and skills in basic mathematical concepts. Students have the opportunity to apply mathematical-based concepts to daily living situations at home, in the community, and in the workplace. These courses meet the mathematics graduation requirements for students enrolled in the Occupational Course of Study set by the North Carolina State Board of Education. The North Carolina Alternate Assessment for Occupational Mathematics I will be a multiple-choice assessment with alternate standards. It will not cover the entire breadth of objectives of the Occupational Mathematics I because they were designed to encompass material from aspects of computation, financial management, time and measurement, independent living, and technology. Approximately 40% of the objectives in the Occupational Mathematics I course map at the access level to objectives in algebra.
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 10. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above.
Curriculum Cycle	Test is based on the 2003 North Carolina Algebra I *Standard Course of Study*.
Content of the Test	
Subject/Course & Grade	Occupational Course of Study: Occupational Mathematics
Alignment	***NCEXTEND2*** Alternate Assessment is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. The ***NCEXTEND2*** for Occupational Course of Study (OCS) is based on the curriculum expectations for Occupational Mathematics. The assessment is a multiple-choice test that

	utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** uses shorter reading selections, simplified language, and fewer test items and item responses (foils/answer choices) to assess students on grade-level content. ***NCEXTEND2*** provides access to the statewide testing through a test design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** Alternate Assessment of Occupational Mathematics I will be administered to students in the OCS who are enrolled for credit in Occupational Mathematics I.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	By Goal
Obj. not/indirectly measured	NA
Miscellaneous remarks	
Design	
Population	Students enrolled in the course of Occupational Mathematics I, must participate in the ***NCEXTEND2*** for Occupational Mathematics I. The NCDPI believes that students should be placed in the most challenging and most appropriate assessment to ensure that all students are sufficiently challenged to realize their potential. It is the expectation that ALL students who participate in ***NCEXTEND2*** OCS are receiving or have received instruction in the Occupational Course of Study (OCS) for the subject(s) in which the students are being assessed. To determine student participation in the ***NCEXTEND2*** for Occupational Mathematics I, the following eligibility criteria must be considered: • The student must have a current IEP; • The student **DOES NOT** have a current 504 plan; • The student, if identified as limited English proficient (LEP), must also have a current IEP; • The student is enrolled or has been enrolled for credit in courses in the Occupational Course of Study which

	require an ***NCEXTEND2*** OCS assessment. A student may be assessed with ***NCEXTEND2*** OCS in one or more subjects for which the assessments are administered. The decision to assess a student with ***NCEXTEND2*** OCS must be determined annually and documented as part of the IEP process. In addition, the decision to place a student in the ***NCEXTEND2*** OCS should not preclude a student from earning a North Carolina high school diploma. Parents of students who are administered ***NCEXTEND2*** OCS, as part of the IEP team and as participants in the IEP process, are to be informed that their child's achievement will be measured using one or more of the ***NCEXTEND2*** OCS assessments.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic). Distractors must be plausible and the language must be clear and precise.
Delivery Mode	
Mode	Paper & pencil
Accommodations	Assistive Technology Devices Braille Edition, Braille Writer/Slate and Stylus (Braille Paper), Cranmer Abacus, Dictation to a Scribe, Home/Hospital Testing, Interpreter/Transliterator Signs/Cues Test, Keyboarding Devices, Large Print Edition, Magnification Devices, Multiple Testing Sessions, One Test Item Per Page, Scheduled Extended Time, Student Reads Test Aloud to Self, Student Marks Answers in Test Book, Test Administrator Reads Test Aloud (in English), Testing in a Separate Room
Number of Items (Total)	40
Operational	40
Embedded	0

<table>
<tr><td>By section</td><td>10</td></tr>
<tr><td>Time Limits</td><td>None. Estimated time is 108 minutes.</td></tr>
<tr><td>Universal Design</td><td>Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.</td></tr>
<tr><td colspan="2">Item & Test Characteristics</td></tr>
<tr><td>Item</td><td>Thinking Skill Levels: Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating

NCSCS Goal/Objective

Difficulty Level(a priori): Easy, Medium, and Hard</td></tr>
<tr><td>Test</td><td>
<table>
<tr><th>Goal</th><th>Description of Category</th><th>Average Percentage</th></tr>
<tr><td>1</td><td>The learner will read, write, model, and compute numbers less than 1,000 using relevant and authentic independent living and employment concepts.</td><td>20</td></tr>
<tr><td>2</td><td>The learner will demonstrate an understanding of financial management skills necessary for independent living and employment.</td><td>25</td></tr>
<tr><td>3</td><td>The learner will demonstrate an understanding of basic time and measurement skills needed for independent living and employment.</td><td>25</td></tr>
<tr><td>4</td><td>The learner will demonstrate an understanding of mathematics skills needed for Independent Living.</td><td>30</td></tr>
</table>
</td></tr>
<tr><td>Cognitive Taxonomy</td><td>Dimensions of Thinking (Marzano et al.)</td></tr>
<tr><td>Stimulus Materials</td><td>Not specified</td></tr>
<tr><td>Other Specifications</td><td></td></tr>
<tr><td colspan="2">Psychometric Properties</td></tr>
<tr><td>P-value</td><td>.15<keep<.85
.85>reserve>.90
.10<reserve<.15</td></tr>
</table>

Point-Biserial Correlation	Keep >.25 Reserve >.15
Slope	Keep >.7 .7 >Reserve >.5 *if applicable
Asymptote	Keep<.35 .35<reserve<.45 *if applicable
Threshold	-2.5<keep<2.5 2.5≤reserve≤3.0 *if applicable
Dif Flags	.667<MH<1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Scrap paper for all students
Testing Window	Last five weeks of traditional/yearlong schedule Last four weeks of semester/block schedule
Scoring	
Methods	Scanned and scored locally (NCDPI-provided software)
Raw Scores	0–40
Scale Scores	TBD
Standard Setting	
Achievement Level Ranges & Descriptors	4 achievement levels **Achievement Level I** Students performing at this level do not have sufficient mastery of knowledge and skills of the course to be successful at a more advanced level in the content area.

	Students performing at Achievement Level I demonstrate the need to develop the mathematics skills and understanding required in the North Carolina Mathematics I Occupational *Standard Course of Study.* Students are unable to successfully manage financial matters and time scheduling problems (such as monthly expenses, deductions on a paycheck stub, the value of sets of coins, and the time of events.) Students show little to no evidence of mathematics skills and strategies required to participate in daily living, home, community, and workplace applications. **Achievement Level II** Students performing at this level demonstrate inconsistent mastery of knowledge and skills of the course and are minimally prepared to be successful at a more advanced level in the content area. Students performing at Achievement Level II demonstrate inconsistent application of the mathematics skills and understanding required in the North Carolina Mathematics I Occupational *Standard Course of Study*. Students demonstrate a minimal ability to successfully manage financial matters and time scheduling problems (such as monthly expenses, deductions on a paycheck stub, the value of sets of coins, and the time of events.) Students inconsistently apply knowledge with money to make change, understand how to use measurement tools, and interpret calendars and clocks. Students show minimal mathematics skills and strategies required to participate in daily living, home, community, and workplace applications. **Achievement Level III** Students performing at this level consistently demonstrate mastery of the course subject matter and skills and are well prepared for a more advanced level in the content area. Students performing at Achievement Level III typically demonstrate the mathematics skills and understanding required by the North Carolina Mathematics I Occupational *Standard Course of Study*. Students typically demonstrate the understanding required to successfully manage financial matters and time scheduling problems (such as monthly expenses, deductions on a paycheck stub, the value of a set of coins and time of events.) Students can solve problems related to time, solve problems involving measurement, compare unit prices, and solve problems involving money. Students are typically

	able to comprehend and analyze the mathematics involved in a variety of situations related to daily living, home, community, and workplace applications. **Achievement Level IV** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient in the course subject matter and skills and are very well prepared for a more advanced level in the content area. Students performing at Level IV demonstrate a strong command of the mathematics skills and understanding required by the North Carolina Mathematics I Occupational *Standard Course of Study*. Students consistently demonstrate the understanding required to successfully manage financial matters and time scheduling problems (such as monthly expenses, deductions on a paycheck stub, the value of a set of coins, and time of events.) Students apply the mathematics needed for calculating sales tax, using a vending machine, solving measurement problems, and understanding and applying appropriate computations. Students are consistently able to comprehend and analyze the mathematics involved in a variety of situations related to daily living, home, community, and workplace applications.
Method	Contrasting groups, item mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Student report card, school report card, state report card
NCLB	Adequate Yearly Progress (AYP)
Appropriate Use	Achievement Level III and above represent proficiency.
History of Development	
Committee Members	

Meeting Notes	Meetings held to discuss how to align these curricula were as follows: May 4, 2004, NCDPI, 1:00 p.m. – 3:00 p.m. Phone conferences with the US Department of Education have indicated that they will accept the End-of-Course Test — Algebra I for the students in the *Standard Course of Study* for our high school test to meet the No Child Left Behind legislation. However, we must develop an alternate assessment for the Occupational Course of Study students. <u>Attendance</u> Lou Fabrizio Mildred Bazemore Laura Kramer Kelly Burling Pam Biggs Melanie Smith August 16, 2004, NCDPI, room 228, 9:00 a.m. – 11:00 a.m. The committee listened to Freda Lee from Exceptional Children explain the inception of the Occupational Course of Study and related courses. <u>Attendance</u> Mildred Bazemore Laura Kramer Freda Lee Kelly Burling Sheila Brown Melanie Smith Jim Kroening November 11, 2005 Representatives of NCDPI Exceptional Children, NCDPI Accountability Services, and Technical Outreach for Public Schools (TOPS) met to propose preliminary test specifications for the assessment. <u>Attendance</u> Freda Lee Yevonne Brannon Mike Jones John Thomas Nadine McBride

	December 3, 2005 Representatives of NCDPI Accountability Services, and Technical Outreach for Public Schools (TOPS) met with teachers of the OCS curriculum and OCS curriculum specialists to review the proposed preliminary test specifications for the assessment. <u>Attendance</u> Sheila Brown Nadine McBride Marcy Roan Melanie Hammonds Sheila Carter Paul Walker Teresa Hunt Lendia Steverson Dorothea Alston Linda Annas Michele Worley Delores McGirt Wendy Johnson Chris Alberti Rochelle Jackson Abigail Memminger Scott Siegel Kathy Shean Christine Killela Karen Abourjilie Susan Thomas Susan Stephens Nellie Aspel January 3, 2006 Representatives of NCDPI Accountability Services and Exceptional Children met to review and finalize the test specifications. <u>Attendance</u> Freda Lee John Thomas Nadine McBride September 6, 2006

	Representatives of NCDPI Accountability Services and Exceptional Children and TOPS Content Exceptional Children met to review and finalize the content mapping of OCS Occupational Mathematics I and Algebra I objectives. <u>Attendance</u> Sheila G. Brown Tom Englehart Carmella Fair Anita Harvin Debra Kinsey Freda Lee Nadine McBride

Occupational Mathematics I

Major Concepts

Occupational Mathematics I continues the study of: a) Computation: reading, writing, counting, and the mathematical skills using whole numbers, decimals, fractions, and percents; b) Financial Management: recognizing and identifying basic financial information; c) Time and Measurement; d) Independent Living; and e) Technology. Students will acquire these skills through hands-on approaches and cooperative learning within the classroom and community. Application of these skills is necessary for independent living and successful employment.

Strands: Computation, Financial Management, Time and Measurement, Independent Living, Technology

Competency Goal 1: The learner will read, write, model, and compute numbers less than 1,000, using relevant and authentic independent living and employment concepts.

1.01 Read and write word names for number to 1,000.
1.02 Compare and order numbers less than 1,000.
1.03 Memorize addition/subtraction facts up to 18.
1.04 Add 3 single-digit numbers.
1.05 Model 2-digit addition and subtraction using manipulatives and alternative strategies.
1.06 Add 2- and 3-digit numbers with and without regrouping.
1.07 Subtract 2- and 3-digit numbers with and without borrowing.
1.08 Make reasonable estimates up to 100 objects.
1.09 Explain solutions to problems using
- words
- pictures
- numbers

1.10 Model and explain multiplication in a variety of ways including
- repeated addition
- skip counting

1.11 Memorize or demonstrate the ability to use multiplication fact tables through 10.
1.12 Model and explain division in a variety of ways including
- sharing equally
- repeat subtraction
- its relationship to multiplication

1.13 Memorize or demonstrate ability to use basic division facts.
1.14 Divide numbers with and without remainders.
1.15 Perform one-step problems using division.

1.16 Check division problems using multiplication.
1.17 Solve meaningful multi-step problems including addition, subtraction, multiplication, and division and a variety of strategies including:
- diagrams
- organized lists
- manipulatives
- guess and check
- calculators as appropriate

1.18 Model fractions and mixed numbers using:
- regions and sets
- describe relationships of parts to whole

1.19 Compare and order fractions using models; describe comparisons.
1.20 Model equivalent fractions using:
- manipulatives
- pictures

1.21 Use estimation techniques in determining solutions to problems.
1.22 Solve problems by identifying and correcting errors.

Financial Management

Competency Goal 2: The learner will demonstrate an understanding of financial management skills necessary for independent living and employment.

2.01 Demonstrate working vocabulary involving financial management.
2.02 Identify sources of income.
2.03 Identify ways to save money.
2.04 Determine the difference between fixed and changing monthly expenses.
2.05 Determine the difference between planned and unplanned expenses.
2.06 Determine financial information which should be saved.
2.07 Identify prices on merchandise.
2.08 Distinguish between needs and wants.
2.09 Identify and analyze factors to consider when choosing a bank.
2.10 Recognize and identify banking terms.
2.11 Identify and analyze the advantages and disadvantages of using checking and savings accounts.
2.12 Identify and recognize:
- hourly wage
- gross pay
- net pay
- deductions on a paycheck stub

2.13 Solve problems by identifying and correcting errors.

Time and Measurement

Competency Goal 3: The learner will demonstrate an understanding of basic time and measurement skills needed for independent living and employment.

3.01 Use calendar language appropriately:
- Seasons
- months
- today
- tomorrow
- yesterday

3.02 Sequence months and use the calendar to solve problems.
3.03 Read, write, and tell time using Military Time.
3.04 Read, write, and tell time to the nearest hour using:
- a digital clock
- analog clock

3.05 Read, write, and tell time to the nearest half-hour using:
- a digital clock
- analog clock

3.06 Read, write, and tell time to the nearest minute using:
- a digital clock
- analog clock

3.07 Solve problems related to time.
3.08 Recognize and identify regularly scheduled activities based on time.
3.09 Identify measurement tools:
- ruler
- yardstick
- tape measure
- carpenter's rule
- meter stick
- digital tape measure
- measuring spoons
- measuring cups
- scales
- clock
- timer
- thermometer
- thermostat
- calendar

3.10 Identify situations in which one would need to use measuring tools:
- cooking
- laundry
- cleaning

3.11 Measure length in:
- inches
- feet
- yards
- meters

3.12 Measure capacity using:
- cups

- pints
- quarts
- gallons
- liters

3.13 Measure weight using:
- ounces
- pounds
- kilograms

3.14 Read thermometers and relate temperatures to everyday situations.

3.15 Solve problems using measurement concepts and procedures. Explain the solutions.

3.16 Describe and identify:
- squares
- rectangles
- triangles
- circles

3.17 Model the concept of area and perimeter using concrete materials. Estimate and record results.

3.18 Recognize and identify solid figures and identify employment areas where these would be used.
- cubes
- cylinders
- prisms

Independent Living

Competency Goal 4: The learner will demonstrate an understanding of mathematics skills needed for Independent Living.

4.01 Identify coins needed to buy items less than $1.00.

4.02 Determine different sets of coins with equivalent values.

4.03 Determine the value of a set of coins.

4.04 Solve money problems using addition and subtraction skills.

4.05 Estimate cost and make change using coins up to $1.00.

4.06 Determine the value of sets of coins to $5.00 creating equivalent amounts with different coins and bills.

4.07 Estimate and compute the cost of items up to $5.00, making change up to $5.00.

4.08 Round money amounts for personal expenditures.

4.09 Read money amounts involving decimals.

4.10 Add and subtract using decimals.

4.11 Calculate percent of number for sales tax.

4.12 Distinguish among regular, sale, and clearance price.

4.13 Use and compare unit price to demonstrate best value.

4.14 Identify the coins needed for vending machines such as:
- laundromat
- food and drink machines

- telephone
- public copy machine
- stamp machine.

4.15 Demonstrate the use of a vending machine.
4.16 Compute the cost of a meal, including subtotal, tax and gratuity.
4.17 Follow a simple recipe.
4.18 Determine the appropriate clothing to be worn based on the outside temperatures.
4.19 Identify the correct clothing size using measurement skills.
4.20 Describe and compare objects by their attributes and order sets of objects.
4.21 Sort by one or more attributes describing the rules used.

Technology Skills

Competency Goal 5: The learner will demonstrate the selection and use of a calculator.

5.01 Determine the most appropriate calculator for personal use.
5.02 Identify, recognize, and demonstrate the use of:
- keys
- functions
- decimal placement

5.03 Using the calculator, solve problems involving:
- addition
- subtraction
- multiplication
- division

5.04 Solve problems by identifying and correcting errors using the calculator.

Mapping of Objectives at the Access Level between Occupational Mathematics and Algebra I

Mapping of Objectives	
Occupational Math	**Algebra I**
1.09	4.01a
1.10	1.02
1.11	1.02/1.03
1.12	1.02/1.03/4.01a
1.13	1.02/1.03
1.14	1.03/4.01a
1.15	1.02/1.03/4.01a
1.16	1.03
1.17	1.02/1.03/4.01
1.19	1.02/1.03
1.20	1.02/1.03/4.01a
2.04	3.01
2.05	3.01
2.06	3.01
2.09	3.01
2.11	3.01
2.12	1.02/1.03/4.01
2.13	1.02/1.03/4.01
3.02	3.01
3.03	4.01
3.07	4.01a
3.08	3.01
3.11	2.01
3.15	1.03/4.01a
3.16	2.01 (squares and rectangles)
4.01	1.03
4.02	1.03
4.03	1.03
4.05	1.03/4.01

Content Map of Tested Objectives

Content Map		
Occupational Math	**Algebra I**	**Key Concepts**
1.09	4.01a	Solving and justifying solutions
1.10	1.02	Recursion
1.11	1.02/1.03	Direct variation, recursion
1.12	1.02/1.03/4.01a	Solving and justifying solutions, recursion, modeling
1.13	1.02/1.03	Direct variation
1.14	1.03/4.01a	Direction variation, modeling, solving and justifying
1.15	1.02/1.03/4.01a	Direct variation, formulas, solving and justifying
1.16	1.03	Direct variation
1.17	1.02/1.03/4.01	Modeling and solving, direct variation
1.19	1.02/1.03	Modeling and solving
1.20	1.02/1.03/4.01a	Modeling and solving
2.04	3.01	Displaying and interpreting data
2.05	3.01	Displaying and interpreting data
2.06	3.01	Displaying and interpreting data
2.09	3.01	Displaying and interpreting data
2.11	3.01	Displaying and interpreting data
2.12	1.02/1.03/4.01	Solving and justifying, direct variation, modeling
2.13	1.02/1.03/4.01/4.04	Solving and justifying
3.02	1.02/1.03/4.01/4.04	Displaying and interpreting data
3.03	4.01	Modeling and Solving
3.07	4.01a	Modeling and Solving
3.08	3.01	Displaying and interpreting data
3.11	4.01a	Finding lengths
3.15	1.03	Solving and justifying
3.17	2.01 (squares and rectangles)	Understanding lengths
3.17	1.03	Direct variation
4.01	1.03	Direction variation
4.02	1.03	Direct variation
4.03	1.03	Direct variation
4.05	1.03/4.01	Direct variation, solving and justifying, modeling

Test Specification Outline
OCS Occupational English I

Element	Comments
Purpose of the Test	The ***NCEXTEND2*** OCS Test of Occupational English I is required by General Statute 115C-174.10 (c) as a component of the North Carolina Annual Testing Program. It is a curriculum-based achievement test specifically aligned to North Carolina's *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students. The purposes of the end-of grade tests are: 1. To assure that all high school graduates possess the minimum skills and knowledge necessary to function as a member of society, 2. To provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and 3. To establish additional means for making the education system at the state, local, and school levels accountable to the public for results. The ***NCEXTEND2*** OCS Test of Occupational English I is used (1) to assess English for students with disabilities who are enrolled in the Occupational Course of Study Occupational English I course and (2) to meet the requirements of the No Child Left Behind Act of 2001. The Occupational Course of Study (OCS) is one of four courses of study a student with disabilities may complete to graduate with a high school diploma in North Carolina. The Occupational Course of Study is an outgrowth of North Carolina's federally funded Systems Change Transition Project. The Occupational Course of Study was approved in concept with final approval of the curriculum frameworks in May 2000. The following is a description of the Occupational Course of Study. The Occupational Course of Study is intended to meet the needs of a small group of students with disabilities who need a greatly modified curriculum that focuses on post-school employment and independent living. The vast majority of students with disabilities will complete one of the other three courses of study with the use of accommodations, modifications, supplemental aids and services as needed. The Occupational Course of Study is a modified standard course of study consisting of fifteen new courses in English, mathematics, science, occupational preparation and social studies. One of the social studies courses is a yearlong course designed to promote self-determination and problem solving.

	The ***NCEXTEND2*** OCS Test of Occupational English I is a modified multiple-choice assessment with modified achievement standards. The assessment does not cover the entire breadth of the OCS Occupational English I because it was designed to encompass material from aspects of telephone skills, writing, computer skills as well as reading comprehension. Approximately 40% of the objectives in the Occupational English I course map at the access level to objectives in the English I course.
Uses of the Test	According to State Board of Education policy, the standard for proficiency shall be a test score at Achievement Level III or above on the ***NCEXTEND2*** OCS Test of Occupational English I. Test results are also used to determine school, district, and state adequate yearly progress for the federal requirements per No Child Left Behind.
Curriculum Cycle	Test is based on the 2000 curriculum framework for the Occupational Course of Study for Occupational English I.
Content of the Test	
Subject/Course & Grade	Occupational Course of Study: Occupational English I
Alignment	***NCEXTEND2*** OCS Test of Occupational English I is for students with disabilities who are working toward grade-level achievement but have continued difficulty in making progress in the same time frame as students without disabilities. The ***NCEXTEND2*** OCS Test of Occupational English I is based on the curriculum expectations for Occupational English I. The assessment is a multiple-choice test that utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** OCS Test of Occupational English I uses shorter reading selections, simplified language, and fewer test items and item responses (foils/answer choices) to assess students on specified grade-level content. ***NCEXTEND2*** OCS test of Occupational English I provides access to the statewide testing through a test design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** OCS Test of Occupational English I will be administered to students in the OCS who are enrolled for credit in Occupational English I.
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Weighting	By goal

Obj. not/indirectly measured	NA
Miscellaneous remarks	
Design	
Population	Students enrolled in the course of Occupational English I must participate in the ***NCEXTEND2*** OCS Test of Occupational English I. The NCDPI believes that students should be placed in the most challenging and most appropriate assessment to ensure that all students are sufficiently challenged to realize their potential. It is the expectation that ALL students who participate in ***NCEXTEND2*** OCS are receiving or have received instruction in the Occupational Course of Study (OCS) for the subject(s) in which the students are being assessed. To determine student participation in the ***NCEXTEND2*** OCS Test of Occupational English I, the following eligibility criteria must be considered: • The student must have a current IEP; • The student **DOES NOT** have a current 504 plan; • The student, if identified as limited English proficient (LEP), must also have a current IEP; • The student is enrolled or has been enrolled for credit in courses in the Occupational Course of Study which require an ***NCEXTEND2*** OCS assessment. A student may be assessed with ***NCEXTEND2*** OCS in one or more subjects for which the assessments are administered. The decision to assess a student with ***NCEXTEND2*** OCS must be determined annually and documented as part of the IEP process. In addition, the decision to place a student in the ***NCEXTEND2*** OCS should not preclude a student from earning a North Carolina high school diploma. Parents of students who are administered ***NCEXTEND2*** OCS, as part of the IEP team and as participants in the IEP process, are to be informed that their child's achievement will be measured using one or more of the ***NCEXTEND2*** OCS assessments.
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Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic). Distractors must be plausible and the language must be clear and precise.

<table>
<tr><th colspan="2">Delivery Mode</th></tr>
<tr><td>Mode</td><td>Paper & pencil</td></tr>
<tr><td>Accommodations</td><td>Assistive Technology Devices Braille Edition, Braille Writer/Slate and Stylus (Braille Paper), Cranmer Abacus, Dictation to a Scribe, Home/Hospital Testing, Interpreter/Transliterator Signs/Cues Test, Keyboarding Devices, Large Print Edition, Magnification Devices, Multiple Testing Sessions, One Test Item Per Page, Scheduled Extended Time, Student Reads Test Aloud to Self, Student Marks Answers in Test Book, Test Administrator Reads Test Aloud (in English), Testing in a Separate Room</td></tr>
<tr><td>Number of Items (Total)</td><td>40</td></tr>
<tr><td>Operational</td><td>40</td></tr>
<tr><td>Embedded</td><td>0</td></tr>
<tr><td>By section</td><td>10</td></tr>
<tr><td>Time Limits</td><td>Power tests that are virtually untimed</td></tr>
<tr><td>Universal Design</td><td>Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.</td></tr>
<tr><th colspan="2">Item & Test Characteristics</th></tr>
<tr><td>Item</td><td>Thinking Skill Levels: Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating

NCSCS Goal/Objective

Difficulty Level(a priori): Easy, Medium, and Hard</td></tr>
<tr><td>Test</td><td>
<table>
<tr><th>Goal</th><th>Description of Goal</th><th>Average Percentage</th></tr>
<tr><td>1</td><td>The learner will obtain and demonstrate functional reading skills.</td><td>50</td></tr>
<tr><td>2</td><td>The learner will obtain and demonstrate functional written language skills.</td><td>20</td></tr>
</table>
</td></tr>
</table>

	3	The learner will obtain and demonstrate functional expressive communication skills.	25
	4	The learner will obtain and demonstrate functional receptive communication skills.	5
	5	The learner will obtain and demonstrate functional computer skills.	0
Cognitive Taxonomy	Dimensions of Thinking (Marzano et al.)		
Stimulus Materials	Not specified (provided as required)		
Other Specifications			
Psychometric Properties			
P-value	.15<keep<.85 .85>reserve>.90 .10<reserve<.15		
Biserial Correlation	Keep >.25 Reserve >.15		
Slope	Keep >.7 .7 >Reserve >.5 *if applicable		
Asymptote	Keep<.35 .35<reserve<.45 *if applicable		
Threshold	-2.5<keep<2.5 2.5≤reserve≤3.0 *if applicable		
Dif Flags	.667<MH<1.5 not flagged		
Minimum Reliability	.85 (multiple-choice)		
Test Administration			
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual		
Materials	Scrap paper for all students		

Testing Window	Last five weeks of traditional/yearlong schedule Last four weeks of semester/block schedule
Scoring	
Methods	Scanned and scored locally (NCDPI-provided software)
Raw Scores	0–40
Scale Scores	The raw score is converted to a scale score using the T-scaling process with a mean of 150 and a standard deviation of 10.
Standard Setting	
Achievement Level Ranges & Descriptors	**Achievement Level I: Less than or equal to 139** Students performing at this level do not have sufficient mastery of knowledge and skills of the course to be successful at a more advanced level in the content area. Students performing at Achievement Level I demonstrate the need to develop the composition and reading comprehension skills required in the North Carolina English I Occupational *Standard Course of Study*. Students are unable to identify and correct rudimentary language convention errors (such as incorrect verb usage, end punctuation errors, and capitalization errors). Students show little to no evidence of reading skills and strategies required to participate in daily living, home, community, and workplace applications. **Achievement Level II: 140–152** Students performing at this level demonstrate inconsistent mastery of knowledge and skills of the course and are minimally prepared to be successful at a more advanced level in the content area. Students performing at Achievement Level II demonstrate inconsistent application of the composition and reading skills required in the North Carolina English I Occupational *Standard Course of Study*. Students demonstrate a minimal understanding and application of grammar and language usage to identify and correct language convention errors in spelling, verb usage, punctuation, and simple sentence structure. Students inconsistently apply, interpret, and express factual, functional information (such as employment, training manuals, maps, schedules, and public

	information related to safety and wellness). Students show minimal reading skills and strategies required to comprehend a variety of texts related to daily living, home, community, and workplace applications. **Achievement Level III: 153–160** Students performing at this level consistently demonstrate mastery of the course subject matter and skills and are well prepared for a more advanced level in the content area. Students performing at Achievement Level III typically demonstrate composition and reading comprehension skills required by the North Carolina English I Occupational *Standard Course of Study*. Students typically demonstrate an understanding of conventional written expression by editing sentences for correctness related to verb usage and punctuation and capitalization. Students can infer, generalize, draw conclusions, and make connections about texts (such as employment, training manuals, maps, schedules, and public information related to safety and wellness). Students are typically able to comprehend and analyze a variety of texts related to daily living, home, community, and workplace applications. **Achievement Level IV: Greater than or equal to 161** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient in the course subject matter and skills and are very well prepared for a more advanced level in the content area. Students performing at Level IV demonstrate a strong command of the composition and reading comprehension skills required by the North Carolina English I Occupational *Standard Course of Study*. Students consistently demonstrate an understanding of conventional written expression by editing sentences for correctness related to verb usage, punctuation and capitalization. Students infer, generalize, draw conclusions, and make connections about texts (such as employment, training manuals, maps, schedules, and public information related to safety and wellness). Students are consistently able to comprehend and analyze a variety of texts related to daily living, home, community, and workplace applications.

Method	Contrasting groups, item mapping
Reporting	
Levels of Reporting	Student, classroom roster, school, LEA, state
ABCs	Performance Composite ABCs, school report card, state report card
NCLB	Adequate Yearly Progress (AYP)
Appropriate Use	Achievement Level III and above represent proficiency.
History of Development	
Committee Members	
Meeting Notes	Meetings held to discuss how to align these curricula were as follows: May 4, 2004, NCDPI, 1:00 p.m. – 3:00 p.m. Phone conferences with the US Department of Education have indicated that they will accept the End-of-Course Test —English 1 for the students in the *Standard Course of Study* for our high school test to meet the No Child Left Behind legislation. However, we must develop an alternate assessment for the Occupational Course of Study students. <u>Attendance</u> Lou Fabrizio Mildred Bazemore Laura Kramer Kelly Burling Pam Biggs Melanie Smith August 16, 2004, NCDPI, room 228, 9:00 a.m. – 11:00 a.m. The committee listened to Freda Lee from Exceptional Children explain the inception of the Occupational Course of Study and the Occupational English courses. <u>Attendance</u>

	Mildred Bazemore Laura Kramer Freda Lee Kelly Burling Sheila Brown Melanie Smith Jim Kroening November 11, 2005 Representatives of NCDPI Exceptional Children, NCDPI Accountability Services, and Technical Outreach for Public Schools (TOPS) met to propose preliminary test specifications for the assessment. <u>Attendance</u> Freda Lee Yevonne Brannon Mike Jones John Thomas Nadine McBride December 3, 2005 Representatives of NCDPI Accountability Services, and Technical Outreach for Public Schools (TOPS) met with teachers of the OCS curriculum and OCS curriculum specialists to review the proposed preliminary test specifications for the assessment. <u>Attendance</u> Sheila Brown Nadine McBride Marcy Roan Melanie Hammonds Sheila Carter Paul Walker Teresa Hunt Lendia Steverson Dorothea Alston Linda Annas Michele Worley Delores McGirt Wendy Johnson Chris Alberti Rochelle Jackson Abigail Memminger Scott Siegel Kathy Shean

	Christine Killela Karen Abourjilie Susan Thomas Susan Stephens Nellie Aspel January 3, 2006 Representatives of NCDPI Accountability Services and Exceptional Children met to review and finalize the test specifications. <u>Attendance</u> Freda Lee John Thomas Nadine McBride August 14, 2006 Representatives of NCDPI Accountability Services and Exceptional Children and TOPS Content and Exceptional Children met to review and finalize the content mapping of OCS Occupational English I and *SCS* English I objectives. <u>Attendance</u> Kim Bowen Sheila G. Brown Freda Lee Julie Malcolm Nadine McBride Cindy Sumerel

Occupational English I

Students in Occupational English I explore and examine a variety of communication modes and the importance each plays in daily living and employment settings. They apply reading and writing strategies to interpret and express factual, functional information. They use oral language strategies to communicate effectively in both formal and informal situations. In Occupational English I students will:

- Expand basic telephone skills for work and home.
- Write complete simple and compound sentences.
- Take and support positions of self-advocacy.
- Read a variety of materials to gain information and perform tasks.
- Read basic, functional vocabulary terms.
- Employ accurate manuscript and cursive letter formation.
- Exhibit ethical behavior in the use of computer technology.
- Develop effective interviewing skills.

Strands: Functional Reading, Written Language, Expressive and Receptive Communication, and Media and Technology

COMPETENCY GOAL 1: The learner will obtain and demonstrate functional reading skills.

Objectives

1.01 Demonstrate functional reading strategies by:
- applying word attack skills.
- using context clues.
- applying prefix, suffix, and root word rules.

1.02 Read functional vocabulary terms as needed for:
- ensuring safety in the home and community.
- using public transportation.
- participating in recreational activities.
- gaining general information for interacting in the community via informational signs.
- shopping.

1.03 Read and comprehend information found in a variety of print and non-print material to:
- gain nutritional information.
- understand clothing labels.
- understand directions and rules posted in public areas.
- use sales catalogs.
- understand safety regulations and procedures.

1.04 Read and comprehend the NC Driving Manual in order to:
- understand driving terms.
- identify road signs.
- explain traffic rules.

- pass the written portion of the driver's exam.

1.05 Demonstrate ability to read road maps by:

- understanding map symbols.
- estimate travel time.
- plotting a trip for one destination to another.
- employing alternative routes.
- calculating mileage.

COMPETENCY GOAL 2: The learner will obtain and demonstrate functional written language skills.

Objectives

2.01 Print all upper and lower case manuscript letters using correct letter formation.

2.02 Express information and ideas when writing simple and compound sentences by using:

- regular and irregular verbs.
- subject/verb agreement.
- pronouns and pronoun usage.
- verb tense consistency.
- subject consistency.
- adjectives.
- adverbs.
- prepositions.
- coordinating conjunctions.

2.03 Use basic capitalization and punctuation rules including:

- first word in a sentence.
- proper names.
- period to end declarative and imperative sentences.
- question mark to end interrogative sentences.
- exclamation point to end exclamatory and/or imperative sentences.
- commas between words in a series.

2.04 Spell one-syllable words commonly used in everyday writing.

2.05 Write and self-edit a variety of items such as but not limited to:

- a telephone message.
- a note/message on a fax memo.
- list(s), (i.e., shopping, grocery, "to do," packing).
- a thank you note.
- a short personal note or message.
- taking notes from a class discussion or lecture.
- preparing a personal portfolio.

2.06 Complete forms and applications in the workplace and community such as:

- personal data sheet.

- withholding tax forms.
- job applications.
- insurance forms.
- health forms.
- driver's permit and license forms.

COMPETENCY GOAL 3: The learner will obtain and demonstrate functional expressive communication skills.

Objectives

3.01 Apply basic subject/verb agreement rules when speaking.

3.02 Acquire and apply appropriate telephone skills for use within the home environment to:

- converse with friends and relatives.
- secure specific information from ads (housing, materials, and supplies).
- use 911 service.
- order needed household supplies (fuel, medicine, repair service).
- use directory assistance services.

3.03 Demonstrate self-advocacy skills to:

- express preferences.
- express goals.
- express opinions.
- express personal decisions.
- make informed judgments when evaluating information and ideas.

3.04 Give directions to places within personal environment by:

- organizing thoughts to articulate directions for locating items within the home.
- organizing thoughts to articulate directions to houses within neighborhood.
- organizing thoughts to articulate directions to stores, banks, post office, doctors and hospital within community.

3.05 Acquire and demonstrate effective oral interviewing skills by:

- using proper voice level and tone.
- using appropriate greetings and farewells.
- speaking in complete sentences.
- asking only appropriate questions during an interview.
- voicing preferences, goals, and opinions appropriately.

COMPETENCY GOAL 4: The learner will obtain and demonstrate functional receptive communication skills.

Objectives

4.01 Expand listening skills for work and home through:

- listening to basic needs expressed by others via various forms of communication media (e.g., oral classroom discussions, lecture, telephone conversations, radio, television, and the internet).
- listening to understand self, others, and the world around him/her.
- listening to the language of others and responding in an appropriate manner.
- listening to maintain relationships.

4.02 Enhance receptive language through the use of print and non-print materials such as magazines, books on tape, movies, telephone conversations, and computers.

4.03 Demonstrate an understanding of self-advocacy skills related to the importance of self through:

- comprehending common terminology associated with self-advocacy (e.g., honesty, responsibility, courage, concern, respect, citizenship, independence, etc.).
- articulating difference between our outer appearance and inner-self.
- using steps to make wise decisions within the home, school, and community.
- taking responsibility for personal actions.

4.04 Interpret materials presented orally to gain information and perform tasks by:

- following up to two step oral directions.
- taking notes received orally through conversation and/or classroom lectures.
- discriminating facts from opinions offered through advertisements.
- identifying key information (e.g., pros and cons).

Mapping of Objectives at the Access Level between Occupational English and English I

OCS obj	Key Concept	Eng I matching obj
1.01	Vocabulary development	6.01
1.02	Reading informational text	2.01
1.03	Reading informational text	2.01
1.04	Reading informational text	2.01
1.05	Reading informational text	2.01
2.02	Using conventional written expression	6.01
2.03	Using conventional written expression	6.01
2.04	Using conventional written expression	6.02
2.05	Using conventional written expression	6.02
3.01	Using conventional spoken expression	6.02
3.02	Using informational communication appropriate to purpose, audience, and context	2.01/2.04
3.03	Using argumentative communication	3.02/2.04/3.02/3.03
3.04	Using informational communication appropriate to purpose, audience, and context	2.03
3.05	Using argumentative communication	6.01/3.02/3.03
4.01	Using expressive communication appropriate to purpose, audience, and context	1.03
4.02	Reading comprehension	5.02/5.03/1.03/2.01/3.04/4.03/5.01
4.03	Demonstrating comprehension of commonly used terms and concepts	2.02

Test Specification Outline
OCS Life Skills I and II

Element	Comments
Purpose of the Test	The North Carolina Alternate Assessment for High School Science will be used to meet the requirements of the No Child Left Behind Act of 2001 to assess science for high school students enrolled in the Occupational Course of Study. The North Carolina Department of Public Instruction has determined that the North Carolina End-of-Course Test of Biology is only an appropriate assessment for students enrolled in the *Standard Course of Study* course for biology. Some special populations of students are enrolled in biology and take the North Carolina End-of-Course Test of Biology with individualized instruction, extensive accommodations, and supplemental aids and services. The courses Life Skills Science I and II were designed for some students with cognitive disabilities whose academic needs can best be met through the Occupational Course of Study. The North Carolina End-of-Course Test of Biology is required by the North Carolina General Statute 115C-174.10 as a component of the North Carolina Annual Testing Program. It is a curriculum-based multiple-choice test specifically aligned to North Carolina's *Standard Course of Study* and includes a variety of strategies to measure the achievement of North Carolina students. The purposes of the end-of-course tests are: 1. to assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a member of society, 2. to provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery, and 3. to establish additional means for making the education system at the State, local, and school levels accountable to the public for results. The End-of-Course Test of Biology is North Carolina's measurement of Annual Yearly Progress for students in three of the four courses of study at the high school level for the No Child Left Behind Act of 2001. Students usually take biology in the tenth grade. Biology is required for high school graduation for students in the three courses of study approved by the North Carolina State Board of Education in August 1999: Career Preparation, College Technical Preparation, and College/University Preparation. See Appendix I for the graduation requirements for all four North Carolina courses of study. (http://www.ncpublicschools.org/curriculum/graduation)

	The Occupational Course of Study is an applied academic course of study available to a limited number of students with cognitive disabilities. Life Skills Science I and II are each year-long courses that allow students with disabilities (SWD) to access the general curriculum. Students enrolled in Life Skills Science I and II develop functional knowledge and skills in basic science concepts. Students have the opportunity to apply science-based concepts to daily living situations at home, in the community, and in the workplace. These courses meet the science graduation requirements for students enrolled in the Occupational Course of Study set by the North Carolina State Board of Education. The North Carolina Alternate Assessment for Life Skills Science I and II will be a multiple-choice assessment with alternate standards. It will not cover the entire breadth of the two courses Life Skills Science I and II because they were designed to encompass material from the biological sciences, the physical sciences, the earth and environmental sciences, and the healthful living curriculum. Approximately 40% of the objectives in the Life Skills Science I and II courses map at the access level to objectives in Biology.
Uses of the Test	Student scores are used in determining student progress and proficiency under state-mandated Student Accountability Standards at grade 10. According to State Board of Education policy, the standard for grade-level proficiency shall be a test score at Achievement Level III or above.
Curriculum Cycle	Test is based on the 2004 North Carolina Science *Standard Course of Study*.
Content of the Test	
Subject/Course & Grade	Occupational Course of Study: Life Skills I and II
Alignment	***NCEXTEND2*** Alternate Assessment of Life Skills Science I and II is an alternate assessment for students with disabilities who are working toward grade-level achievement but having continued difficulty in making progress in the same time frame as students without disabilities. The ***NCEXTEND2*** for Occupational Course of Study (OCS) is based on the curriculum expectations for Occupational Life Skills Science I and II. The assessment is a multiple-choice test that utilizes universal design principles to address accessibility for students with disabilities. ***NCEXTEND2*** uses shorter reading selections, simplified language, and fewer test items and item responses (foils/answer choices) to assess students on grade-level content. ***NCEXTEND2*** provides access to the statewide testing through a test

	design that utilizes a different format and permits the use of modified academic achievement standards (achievement levels). ***NCEXTEND2*** Alternate Assessment of Occupational Life Skills Science I and II will be administered to students in the OCS who are enrolled for credit in Occupational Life Skills Sciences I and II. Students who participate in the Life Skills Science I and II assessment must be taking the second course of Life Skills Science, regardless of the order in which the courses are taken.
Dimensionality	The construct of the test is unidimensional, requiring the reporting of a total score for the test.
Weighting	By Goal
Obj. not/indirectly measured	NA
Miscellaneous remarks	
Design	
Population	Students enrolled in the second course of Life Skills Science I and Life Skills Science II, regardless of the order in which they are taken, must participate in the ***NCEXTEND2*** for Life Skills Science I and II. The NCDPI believes that students should be placed in the most challenging and most appropriate assessment to ensure that all students are sufficiently challenged to realize their potential. It is the expectation that ALL students who participate in ***NCEXTEND2*** OCS are receiving or have received instruction in the Occupational Course of Study (OCS) for the subject(s) in which the students are being assessed. To determine student participation in the ***NCEXTEND2*** for Occupational Life Skills Sciences I and II, the following eligibility criteria must be considered: • The student must have a current IEP; • The student **DOES NOT** have a current 504 plan; • The student, if identified as limited English proficient (LEP), must also have a current IEP; • The student is enrolled or has been enrolled for credit in courses in the Occupational Course of Study which require an ***NCEXTEND2*** OCS assessment. A student may be assessed with ***NCEXTEND2*** OCS in one or more subjects for which the assessments are administered. The decision to

	assess a student with ***NCEXTEND2*** OCS must be determined annually and documented as part of the IEP process. In addition, the decision to place a student in the ***NCEXTEND2*** OCS should not preclude a student from earning a North Carolina high school diploma. Parents of students who are administered ***NCEXTEND2*** OCS, as part of the IEP team and as participants in the IEP process, are to be informed that their child's achievement will be measured using one or more of the ***NCEXTEND2*** OCS assessments.
Format	
Item type	Multiple-choice: stem with three foils
Special item considerations	Items must be original and unique as well as free of bias (cultural, economic, gender, ethnic, or geographic). Distractors must be plausible and the language must be clear and precise.
Delivery Mode	
Mode	Paper & pencil
Accommodations	Assistive Technology Devices Braille Edition, Braille Writer/Slate and Stylus (Braille Paper), Cranmer Abacus, Dictation to a Scribe, Home/Hospital Testing, Interpreter/Transliterator Signs/Cues Test, Keyboarding Devices, Large Print Edition, Magnification Devices, Multiple Testing Sessions, One Test Item Per Page, Scheduled Extended Time, Student Reads Test Aloud to Self, Student Marks Answers in Test Book, Test Administrator Reads Test Aloud (in English), Testing in a Separate Room
Number of Items (Total)	40
Operational	40
Embedded	0
By section	10
Time Limits	None. Estimated time is 108 minutes.
Universal Design	Items and selections are reviewed for accessibility by all students, specifically students with disabilities and students with limited English proficiency.

<table>
<tr><th colspan="2">Item & Test Characteristics</th></tr>
<tr><td>Item</td><td>Thinking Skill Levels: Knowledge, Organizing, Applying, Analyzing, Generating, Integrating, Evaluating

NCSCS Goal/Objective

Difficulty Level(a priori): Easy, Medium, and Hard</td></tr>
<tr><td>Test</td><td>
<table>
<tr><th>Goal</th><th>Description of Category</th><th>Average Percentage</th></tr>
<tr><td>1</td><td>The learner will develop abilities necessary to do and understand scientific inquiry.</td><td>28%–32%</td></tr>
<tr><td>2</td><td>The learner will develop an understanding of the physical, chemical and cellular basis of life.</td><td>25%–30%</td></tr>
<tr><td>3</td><td>The learner will develop an understanding of the continuity of life and the changes of organisms over time.</td><td>30%–35%</td></tr>
<tr><td>4</td><td>The learner will develop an understanding of the unity and diversity of life.</td><td>25%–30%</td></tr>
<tr><td>5</td><td>The learner will develop an understanding of the ecological relationships among organisms.</td><td>15%–20%</td></tr>
</table>
</td></tr>
<tr><td>Cognitive Taxonomy</td><td>Dimensions of Thinking (Marzano et al.)</td></tr>
<tr><td>Stimulus Materials</td><td>Not specified</td></tr>
<tr><td>Other Specifications</td><td></td></tr>
<tr><th colspan="2">Psychometric Properties</th></tr>
<tr><td>P-value</td><td>.15<keep<.85
.85>reserve>.90
.10<reserve<.15</td></tr>
<tr><td>Biserial Correlation</td><td>Keep >.25
Reserve >.15</td></tr>
<tr><td>Slope</td><td>Keep >.7
.7 >Reserve >.5
*if applicable</td></tr>
<tr><td>Asymptote</td><td>Keep<.35
.35<reserve<.45
*if applicable</td></tr>
<tr><td>Threshold</td><td>-2.5<keep<2.5
2.5≤reserve≤3.0
*if applicable</td></tr>
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Dif Flags	.667<MH<1.5 not flagged
Minimum Reliability	.85 (multiple-choice)
Test Administration	
Guidelines & Procedures	Adhere to directions/script in Test Administrator's Manual
Materials	Scrap paper for all students
Testing Window	Last five weeks of traditional/yearlong schedule Last four weeks of semester/block schedule
Scoring	
Methods	Scanned and scored locally (NCDPI-provided software)
Raw Scores	0–40
Scale Scores	TBD
Standard Setting	
Achievement Level Ranges & Descriptors	4 achievement levels **Achievement Level I** Students performing at this level do not have sufficient mastery of knowledge and skills of the course to be successful at a more advanced level in the content area. Students performing at Achievement Level I do not have sufficient mastery of biological concepts. They have a minimal understanding of the physical, chemical, and cellular basis of life, the continuity of life and changes in organisms over time, classification systems and the structure and function of organisms, ecological relationships among organisms, and adaptive responses of organisms. **Achievement Level II** Students performing at this level demonstrate inconsistent mastery of knowledge and skills of the course and are minimally prepared to be successful at a more advanced level in the content area. Students performing at Achievement Level II demonstrate inconsistent mastery

	of biological concepts. They have a limited understanding of the physical, chemical, and cellular basis of life, the continuity of life and changes in organisms over time, classification systems and the structure and function of organisms, ecological relationships among organisms, and adaptive responses of organisms. **Achievement Level III** Students performing at this level consistently demonstrate mastery of the course subject matter and skills and are well prepared for a more advanced level in the content area. Students performing at Achievement Level III demonstrate mastery of biological concepts and are prepared for more advanced science courses. They have an adequate understanding of the physical, chemical, and cellular basis of life, the continuity of life and changes in organisms over time, classification systems and the structure and function of organisms, ecological relationships among organisms, and adaptive responses of organisms. **Achievement Level IV** Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient in the course subject matter and skills and are very well prepared for a more advanced level in the content area. Students performing at Achievement Level IV demonstrate superior understanding of biological concepts and are very well prepared for more advanced science courses. They have an advanced level of understanding of the physical, chemical, and cellular basis of life, the continuity of life and changes in organisms over time, classification systems and the structure and function of organisms, ecological relationships among organisms, and adaptive responses of organisms.
Method	Contrasting groups, item mapping
Reporting	
Levels of Reporting	Student, school, LEA, state
ABCs	Student report card, school report card, state report card
NCLB	Adequate Yearly Progress (AYP)

Appropriate Use	Achievement Level III and above represent proficiency.
History of Development	
Committee Members	
Meeting Notes	Meetings held to discuss how to align these curricula were as follows: May 4, 2004, NCDPI, 1:00 p.m. – 3:00 p.m. Phone conferences with the U.S. Department of Education have indicated that they will accept the End-of-Course Test —Biology for the students in the *Standard Course of Study* for our high school test to meet the No Child Left Behind legislation. However, we must develop an alternate assessment for the Occupational Course of Study students. <u>Attendance</u> Lou Fabrizio Mildred Bazemore Laura Kramer Kelly Burling Pam Biggs Melanie Smith August 16, 2004, NCDPI, room 228, 9:00 a.m. – 11:00 a.m. The committee listened to Freda Lee from Exceptional Children explain the inception of the Occupational Course of Study and the Life Skills Science courses. It was determined that the assessment for these courses would be similar to the AAAI for the Biology EOC. It was determined that Melanie and Sheila would meet with Eleanor Hasse to check for objective matches between these courses and Biology. <u>Attendance</u> Mildred Bazemore Laura Kramer Freda Lee Kelly Burling Sheila Brown Melanie Smith Jim Kroening August 23, 2004, NCDPI, room 208, 1:00 p.m. – 4:00 p.m. After comparing each objective for both courses an approximate 40%

	match was determined. The purpose and goals of both courses were discussed. The committee agreed that the basic philosophy toward teaching science appears to be the same in both courses. <u>Attendance</u> Eleanor Hasse Sheila Brown Melanie Smith September 10, 2004, NCDPI, room 228, 9:00 a.m.– 1:00 p.m. The committee met to revise the document created by Melanie Smith after the August 23rd meeting. <u>Attendance</u> Eleanor Hasse Sheila Brown Freda Lee Clara Stallings Laura Kramer Melanie Smith September 28, 2004, NCDPI, room 694, 1:00 p.m. –3:00 p.m. The committee met to continue work on the document. Review of the objective match was completed. <u>Attendance</u> Laura Kramer Jim Kroening Melanie Smith Eleanor Hasse Sheila Brown Bill Tucci Kelly Burling Clara Stallings Freda Lee October 4, 2004, NCSU, McKimmon Center, 9:00 a.m. – 10:00 a.m. Mildred, Jim, and Melanie met to discuss the test format. Erin Bohner joined the meeting briefly to share an instrument used by Utah that was tasked based. Two options for reporting were discussed. <u>Attendance</u> Mildred Bazemore Melanie Smith

	Jim Kroening Erin Bohner October 28, 2004, NCDPI, room 642, 9:30 a.m. –11:30 a.m. The committee was brought up to date with a review of the previous meeting. Erin Bohner presented and explained the assessment of the state of Utah. Melanie Smith asked Freda Lee and Eleanor Hasse, with the help of the other curriculum staff, to narrow the focus of the objectives to just the big ideas of the Life Skills Science Curriculum objectives that should be tested. The mapping has already been identified. The items still under discussion are: 1. when to assess a. end of year, end of each course b. end of semester c. natural breaks in the curriculum – when the teacher determines that a student has mastered the concept d. end of specific goals set by the NCDPI 2. rubrics 3. types of tasks 4. number of tasks per objective 5. number of objectives 6. which objectives <u>Attendance</u> Bill Tucci Eleanor Hasse Jim Kroening Freda Lee Mildred Bazemore Marcy Roan Erin Bohner Nancy Lanier Sheila Brown Melanie Smith November 23, 2004, NCDPI, room 624, 1:30 p.m. – 4:00 p.m. Ideas for testing were discussed, as well as gather input from teachers, curriculum specialists, and administrators. It was determined that the committee will break into a subcommittee again to work on picking the "Big Idea" objectives on December 20.

	Attendance Eleanor Hasse Melanie Smith Marcy Roan Nancy Lanier Sheila Brown Jim Kroening Freda Lee December 20, 2004, 6th floor EC conference space, 10:30 a.m. – 12:00 p.m. The subcommittee developed the content map of the items to be tested. Attendance Melanie Smith Eleanor Hasse Sheila Brown Freda Lee November 11, 2005 Representatives of NCDPI Exceptional Children, NCDPI Accountability Services, and Technical Outreach for Public Schools (TOPS) met to propose preliminary test specifications for the assessment. Attendance Freda Lee Yevonne Brannon Mike Jones John Thomas Nadine McBride December 3, 2005 Representatives of NCDPI Accountability Services, and Technical Outreach for Public Schools (TOPS) met with teachers of the OCS curriculum and OCS curriculum specialists to review the proposed preliminary test specifications for the assessment. Attendance Sheila Brown Nadine McBride Marcy Roan Melanie Hammonds Sheila Carter Paul Walker

	Teresa Hunt Lendia Steverson Dorothea Alston Linda Annas Michele Worley Delores McGirt Wendy Johnson Chris Alberti Rochelle Jackson Abigail Memminger Scott Siegel Kathy Shean Christine Killela Karen Abourjilie Susan Thomas Susan Stephens Nellie Aspel January 3, 2006 Representatives of NCDPI Accountability Services and Exceptional Children met to review and finalize the test specifications. <u>Attendance</u> Freda Lee John Thomas Nadine McBride

Life Skills Science I

GOAL 1: The learner will develop the skills needed to exhibit safety measures and procedures in a variety of situations in the community, home and workplace.

1.01 Identify factors in the home, the community, and on the job site that lead to accidents and demonstrate the ability to accurately point out dangerous situations.

1.02 Recognize and respond appropriately to danger/warning signs in the workplace and the community.

1.03 Describe the purpose of a "Neighborhood Watch" and the role individuals play in this process.

1.04 Define an emergency situation and differentiate between an emergency situation and a nonemergency situation.

1.05 Identify agencies that handle emergencies and demonstrate the ability to locate addresses and telephone numbers for these agencies or maintain a directory of these numbers:

- Emergency Dispatch – 911.
- Highway Patrol.
- Sheriff's Department.
- City Police.
- Utility Companies (e.g., electrical, gas, and water).
- Poison Control.

1.06 State the process for reporting an emergency to the proper authorities and correctly role-play making a request for assistance.

1.07 State strategies for ensuring safety in a variety of situations at home, in the workplace, and in the community:

- Home safety.
- Electrical safety.
- Pedestrian safety.
- Motor vehicle safety.
- Public transportation safety.
- Hitchhiking.
- Being lost or separated from companions.
- Water safety.
- Bicycle safety.
- Fire safety.
- Occupational safety (e.g., food service, construction, service-related industries).

1.08 Recognize the universal symbol for poison and identify common words associated with household and workplace poisons (e.g., ammonia, polish, glue, antifreeze, drain cleaner, lye, paint thinner, turpentine, gasoline, rubbing alcohol, etc.).

1.09 Identify safety procedures for handling common poisons and the consequences of misuse.
1.10 State the importance of escape routes for situations involving fires and demonstrate the ability to follow a map showing designated escape routes.
1.11 Describe safety hazards associated with guns in the home and state practices that can prevent gun accidents.
1.12 Identify common disasters/accidents and state the proper procedures for preparation (if advance warning is received) and response:
- Fire.
- Tornado.
- Electrical storm.
- Winter storm.
- Hurricane.
- Flood.
- Highway accidents.

1.13 Demonstrate through role-playing the correct steps for preparation and response to a variety of natural disasters.
1.14 Name local, state, and federal agencies that provide assistance and relief during natural disasters and the process for accessing the services of these relief agencies.

GOAL 2: The learner will obtain the skills needed to exhibit skills associated with providing simple first aid and obtaining medical treatment when needed.
2.01 Distinguish between simple and serious inquiries.
2.02 List and identify the items found in a work and home first aid kit and provide a description of how these items are used.
2.03 Identify simple injuries and demonstrate the proper procedures for providing simple first aid for these injuries:
- Minor scrapes and cuts.
- Insect bites.
- Simple burns (including sunburn).
- Puncture wounds.
- Nosebleeds.
- Bruises.
- Sprains.

2.04 Identify injuries requiring medical assistance and demonstrate the proper responses for these injuries while waiting for medical attention to arrive:

- Severe bleeding.
- Shock.
- Severe burn.
- Choking.
- Diabetic shock.
- Heatstroke.
- Poisoning.
- Allergic reaction.
- Snakebite.
- Broken bone.
- Seizure.
- Animal bite.
- Head/neck injury.
- Heart attack.
- Drug overdose.

2.05 Identify symptoms of common nonserious illnesses and state routine home treatments and appropriate nonprescription medications:

- Common cold.
- Influenza.
- Constipation.
- Diarrhea.
- Rash.
- Fever.
- Headache.

2.06 Explain the primary function(s) of the major systems of the human body and the major organs within these systems in terms that would assist understanding information presented by a medical care provider:

- Skeletal.
- Muscular.
- Reproductive (male and female).
- Circulatory.
- Respiratory.
- Nervous.
- Digestive.
- Excretory.
- Endocrine.

2.07 Identify major health problems/conditions associated with the primary systems of the human body, common symptoms of these conditions, and when professional medical care is needed.

2.08 Identify the purpose of common health and medical tests/procedures:
- Blood pressure.
- Pulse rate.
- Respiration.
- EEG.
- EKG.
- CAT scan.
- Blood work.
- Drug test.
- Urine sample.
- Pap smear.
- Mammogram.

2.09 Interpret common warning labels on prescription and nonprescription medications and demonstrate the appropriate response to warning labels.

2.10 Define terms related to medications:
- Prescription.
- Refill.
- Pharmacist.
- Dosage.
- Side effects.
- Generic.

2.11 Describe and demonstrate the ability to have a prescription filled or purchase medical supplies at a local pharmacy.

2.12 Identify the need for seeking medical services related to vision and hearing and the procedure for obtaining these services.

2.13 Identify various community sources of medical and emotional care and the services that can be obtained from these agencies:
- Health department.
- Medicaid clinics.
- Hospital.
- Family medical practices.
- Mental health center.
- Crisis clinic.

2.14 List the things that should be considered when choosing a personal physician or a specialist.

2.15 Define the term "patient rights" and describe common rights usually afforded to those seeking medical care.

2.16 State the importance of insurance and identify various sources for obtaining health, medical, and dental insurance.

2.17 List the types of medical information needed when obtaining medical care and demonstrate the ability to locate/maintain this type of information.

2.18 Describe why it is important to consider one's family medical history when making personalized plans for preventive health measures.
2.19 Describe and demonstrate the appropriate behaviors and responses for interacting with medical personnel during routine examinations and other types of medical care.
2.20 Demonstrate the ability to apply assertiveness, negotiation, and refusal skills to situations involving health risks or medical treatment.
2.21 Demonstrate through role-playing the ability to make an appointment for medical care or treatment.

GOAL 3: The learner will develop the skills needed to practice healthful living and good nutrition.

3.01 Recognize the relationship between daily hygiene/grooming habits and good health and demonstrate appropriate hygiene and grooming on a consistent basis utilizing the proper items/products:
- Dental.
- Hair.
- Nails.
- Body.
- Skin.

3.02 State the importance of maintaining clean living and work environments and demonstrate the ability to adequately clean these areas using appropriate supplies.
3.03 State common practices that help prevent illnesses and germ spreading.
3.04 Demonstrate the ability to distinguish between health-promoting products and cosmetic products.
3.05 Define "substance abuse," methods for avoidance, negative consequences, and methods for obtaining assistance.
3.06 Define the term "mental health," identify sources of mental health services, and describe the impact of various mental health issues/conditions on the quality of life:
- Depression (including suicidal tendencies).
- Stress.
- Grief.
- Anxiety.
- Eating disorders.

3.07 Define "immunization," the reason for required immunizations, possible side effects, and where immunizations may be obtained.
3.08 Identify the basic food groups and the types of foods that are included under each of these groups.
3.09 State the importance of good nutrition and list basic guidelines for the practice of good nutrition.

3.10 Describe the characteristics of diets classified as:
- Low fat.
- Low calorie for weight loss.
- High cholesterol.
- Low sodium.
- Low protein.
- Diabetes.

3.11 Identify credible methods for controlling weight gain and recognize "fad" diets or gimmicks used for weight loss.

3.12 Identify eating disorders, describe the symptoms of eating disorders, and how to obtain help.

3.13 Locate nutritional information on a variety of food packages and apply the information to planning a healthy diet.

3.14 State the benefits of a regular exercise program, including its relation to weight and health and the guidelines that should be followed when participating in an exercise program (e.g., self-pacing, health conditions, preparation, safety).

3.15 Describe methods for avoiding the following injuries during an exercise routine, providing care for these injuries if they do occur:
- Blisters.
- Bruises.
- Cramps.
- Ligament damage.
- Sprains.
- Muscle strain.

3.16 Demonstrate the ability to keep a weight chart and plan a personal exercise routine including three types of physical exercise: strength, endurance, and flexibility.

3.17 Identify foods that are high-risk for contamination/spoilage and state the proper methods for handling, preparing, and storing these types of foods.

3.18 Plan and prepare a simple meal based on solid nutritional guidelines and demonstrate the following skills during preparation of a meal:
- Develop a grocery list.
- Purchase food.
- Awareness of cooking terms.
- Cooking methods.
- Kitchen appliance usage.

Life Skills Science II

GOAL 1: The learner will demonstrate an understanding of the issues surrounding relationships, families, marriage, and parenting.

1.01 Describe the dynamics of relationships within a family structure and identify the characteristics of appropriate behavior between various family members.

1.02 Identify the responsibilities of various family members.

1.03 Describe different types of family structures:

- Natural vs. adoptive.
- Traditional.
- Foster parent.
- Single parent.
- Guardian.
- Step-parent.
- Grandparent.
- Single individual.
- Group home.

1.04 Identify characteristics to look for in a friend, date, or marriage partner.

1.05 List strategies for making friends and maintaining positive relationships.

1.06 Discuss the factors that should be considered when making a decision concerning a long-term relationship or a marriage.

1.07 Describe the personal and legal responsibilities associated with marriage.

1.08 Describe various conflict resolution strategies appropriate for a relationship and demonstrate the ability to problem-solve within a relationship.

1.09 Discuss problems that are common to many marriages, how these problems may result in the failure of the marriage if not solved in a timely fashion and identify individuals/agencies that can assist couples having marital problems.

1.10 Define "separation" and "divorce" and the legal procedures associated with each process.

1.11 Describe the major characteristics of various developmental stages:

- Infancy.
- Toddlers.
- Preschool.
- Elementary.

1.12 List major parental responsibilities and appropriate parental support at each stage of a child's development.

1.13 Discuss factors that should be considered when making the decision to have children.

1.14 Describe appropriate methods of disciplining children.
1.15 List appropriate activities in which a parent and child can participate together and the advantages of these activities.
1.16 Recognize how certain factors impact on the physical/emotional development of children:
- Poverty.
- Substance abuse.
- Divorce.
- Child abuse.
- Spousal abuse.

1.17 Identify the characteristics of child abuse and spousal abuse, preventive methods, and individuals/agencies that can provide assistance in abusive situations.

GOAL 2: The learner will obtain an understanding of human reproduction and responsible sexual behavior.

2.01 Describe the characteristics of male and female puberty.
2.02 Define "sexual exploitation" and demonstrate strategies for prevention and reporting.
2.03 Describe behavior that is appropriate for public places.
2.04 Explain methods of contraception and recognize that no form of birth control is 100% effective except for abstinence.
2.05 Identify abstinence from sexual intercourse as the best and safest method of avoiding pregnancy and sexually transmitted diseases (STDs) and note the advantages of choosing this type of contraception.
2.06 Discuss the emotions and possible consequences of choosing to have sexual intercourse (e.g., low self-esteem, pregnancy, STDs).
2.07 Identify common sexually transmitted diseases (STDs), their symptoms, the manner in which STDS are contracted, and possible treatments.
2.08 Define AIDS and HIV and distinguish between medically proven forms of transmission and fables/myths.
2.09 Identify high-risk behaviors for contracting HIV/AIDS.
2.10 Identify community resources for family planning and the treatment of sexually transmitted diseases (STDs) and the process for accessing the services of these agencies.
2.11 Describe the consequences and responsibilities of pregnancy.
2.12 Identify the symptoms of pregnancy and the physical and emotional changes that occur during pregnancy.
2.13 Explain the importance of prenatal care, the process for obtaining prenatal care, and the major strategies involved in ensuring adequate prenatal care.
2.14 Identify the symptoms of labor, the procedures involved during delivery, and possible complications that can occur during the birth process.

GOAL 3: The learner will develop a basic understanding of earth science in the area of plants, animals, and weather.

3.01 State the importance of plants and animals in everyday life.

3.02 Identify similarities and differences in common plants:

- Appearance.
- Growth.
- Change.
- Use.

3.03 Describe the general procedures in routine plant care and exhibit the ability to take care of indoor and outdoor plants.

3.04 State facts related to plant growth and identify the basic parts of a plant.

3.05 Demonstrate the process for growing new plants from:

- Seeds.
- Bulbs.
- Cuttings.
- Runners.

3.06 Describe how environmental forces can affect plants.

3.07 Identify plants that are toxic to humans and the consequences of contact with these plants through ingestion or touch.

3.08 Identify similarities and differences in common animals:

- Appearance.
- Growth.
- Change.
- Use.

3.09 Describe the general procedures involved in caring for common household pets (e.g., food, water, shelter, medical care, nurturing) and demonstrate the ability to care for a pet.

3.10 Identify basic safety procedures when handling animals (e.g., domestic, wild, farm) and respond appropriately when asked to handle animals in a safe manner.

3.11 List advantages and disadvantages of owning a pet:

- Cost.
- Housing.
- Allergies.
- Safety.

3.12 Describe the role of the veterinarian, the Humane Society, and Animal Control:

- Role and function.
- Reason for using services.
- Process for accessing services.
- Cost of services.

3.13 Demonstrate the ability to read and interpret thermometers correctly.

3.14 Define common weather-related terms in a manner that is functional to understanding weather reports:
- Precipitation.
- Temperature.
- Humidity.
- Wind speed.
- Wind chill.
- Warning.
- Watch.

3.15 Relate seasons to weather conditions and changes.
3.16 Define "meteorologist" and the role of the meteorologist in weather forecasting.
3.17 Distinguish between a short-term and long-term weather forecast.
3.18 Discuss the accuracy of weather forecasting.
3.19 Describe various weather conditions that could constitute weather hazards and identify appropriate responses to the forecasting of these conditions.
3.20 Indicate sources of weather-related information and access these sources in order to make plans:
- Television (local and cable channels).
- Radio.
- Newspaper.
- Internet.

GOAL 4: The learner will develop an understanding of environmental science.

4.01 Define pollution and identify major causes of and problems related to air pollution, water pollution, and soil pollution.
4.02 Identify solutions to the environmental problems caused by individuals and industry.
4.03 Define "recycling" and its benefits.
4.04 Distinguish between biodegradable and non-biodegradable products and classify common objects into these categories.
4.05 Explain the purpose and benefits of a recycling center.
4.06 Explain the term "medical waste" and basic guidelines for handling medical waste in various health-related occupations.
4.07 Demonstrate the ability to participate in a recycling program at home, at school, and/or in the community.
4.08 Identify the various uses of common fuels (e.g., gas, diesel, kerosene, propane, oil).
4.09 Identify safety procedures for handling various fuels (e.g., gas, diesel, kerosene, propane, oil).
4.10 Identify methods for the conservation of energy at home and in the workplace and develop a personal plan for energy conservation.

4.11 State the importance of wildlife management and some of the major strategies/laws used to protect wildlife (e.g., endangered species act, hunting and fishing laws/licenses).

GOAL 5: The learner will obtain knowledge of physical science in the areas of tools, simple machines, energy, and physical properties.

5.01 Demonstrate the ability to accurately identify/describe objects, using at least four properties (e.g., color, shape, texture, weight) and at least three senses in order to provide information to a co-worker/supervisor or participate in workplace problem-solving situations.

5.02 Recognize how inaccurate measurement can result in unsuccessful or incomplete results.

5.03 Demonstrate the ability to make accurate predictions about possible occurrences of various events in everyday life.

5.04 Identify various types of simple machines, their benefits, and usage:

- Incline plane.
- Lever.
- Pulley.
- Wheel and axle.
- Wedge.
- Screw.

5.05 Identify tools/appliances in everyday life, identify ways in which tools/appliances help people do work and apply their use to a variety of tasks at home and at work.

5.06 Define a "compound machine" and identify compound machines in everyday life (e.g., can opener, bicycle, zipper, wheelbarrow).

5.07 Identify tools that can be found in a basic toolbox and demonstrate the ability to use these tools for simple repairs/adjustments.

5.08 Distinguish common metals (e.g., brass, copper, steel, aluminum, iron) and classify various objects found in the home and the workplace into various categories of metals.

5.09 State basic guidelines for the care and cleaning of common metals.

5.10 Define "friction" and its characteristics and relate the concept of friction to various work situations.

5.11 Identify the three states of matter (e.g., liquid, gas, solid) and give common examples of each found in the home and the workplace.

5.12 Identify how various forms of energy are applied to daily life (e.g., electrical energy used for appliances, mechanical energy used for clocks, solar energy used for heating/air).

5.13 Recognize that weight is not always related to size and demonstrate the ability to make fairly accurate predictions about objects and their weight.

5.14 Define the terms "transparent," "opaque," and "translucent," and relate these terms to the workplace.

5.15 Demonstrate an understanding of the relationship between light and heat.

Mapping of Objectives at the Access Level between Life Skills Science I and II and Biology

Mapping of Objectives			
Life Skills Science I	**Biology**	**Life Skills Science II**	**Biology**
1.01	1.04	1.11	4.02
1.02	1.04	2.01	4.02
1.04	1.04	2.07	4.03
1.05	1.04	2.08	4.03
1.06	1.05	2.09	4.04
1.07	1.04	2.12	4.02
1.08	1.04	3.01	2.05, 5.02
1.09	1.04	3.02	4.01, 4.02
1.10	1.04	3.04	4.02
1.11	4.04	3.05	3.02
2.01	1.04	3.06	5.01
2.02	1.04	3.07	4.04
2.03	1.04	3.08	4.01, 4.02
2.04	1.04	3.10	1.04
2.05	4.03, 4.04	3.13	1.02
2.06	4.02	4.02	5.03
2.07	4.02, 4.04	4.03	5.03
2.08	2.03, 4.02, 4.03, 4.04	4.04	2.01, 5.03
2.09	1.04	4.06	1.04, 4.04
2.15	3.04	4.07	5.03
2.18	3.03, 4.04	4.11	5.03
3.03	4.04	5.02	1.02
3.07	4.04	5.03	1.03
3.08	2.01, 4.04		
3.09	2.03		
3.10	2.01, 2.03, 4.04		
3.11	2.01, 2.03, 4.04		
3.13	2.01		
3.14	4.04		
3.15	1.04		
3.17	4.01		
3.18	1.02		

Content Map of Tested Objectives

Content Map		
Life Skills Science I	**Biology**	**Key Concept**
1.01	1.04	avoiding hazards and applying safety strategies
1.07	1.04	avoiding hazards and applying safety strategies
1.08	1.04	avoiding hazards and applying safety strategies
1.09	1.04	avoiding hazards and applying safety strategies
2.06	4.02	understanding how humans accomplish life functions
2.07	4.02, 4.04	understanding factors in health and disease
2.08	2.03, 4.02, 4.03, 4.04	understanding factors in health and disease
2.15	3.04	understanding patients rights / bioethics
2.18	3.03, 3.04, 4.04	understanding genetics in family medical history
3.03	4.03, 4.04	understanding factors in health and disease
3.07	4.04	understanding factors in health and disease
3.08	2.01, 4.02, 4.04	understanding nutrition
3.09	2.03, 4.02, 4.04	understanding nutrition
3.10	2.01, 2.03, 4.02, 4.04	understanding nutrition
3.11	2.01, 2.03, 4.02, 4.04	understanding nutrition
3.13	2.01, 4.02, 4.04	understanding nutrition
3.16	1.02, 4.04	understanding factors in health and disease
3.18	1.02, 4.04	understanding nutrition
Life Skills Science II	**Biology**	**Key Concept**
1.11	4.02	understanding stages of human development
2.01	4.02	understanding growth and development of organisms
2.07	4.03, 4.04	identifying sexually transmitted diseases
2.08	4.03, 4.04	understanding how sexually transmitted diseases are transmitted
2.09	4.03, 4.04	understanding how sexually transmitted diseases are transmitted
2.12	4.02	understanding growth and development of organisms
3.01	2.05, 5.01, 5.02	understanding the interdependence of organisms
3.05	1.01 -1.05, 3.02	understanding how organisms reproduce
3.06	2.05, 5.01, 5.01	understanding the interdependence of organisms
4.11	5.03	developing an awareness of environmental conservation
5.02	1.02, 1.03	understanding science as inquiry
5.03	1.02, 1.03	understanding science as inquiry

These objectives were chosen from the mapped objectives because they were thought to be the most important representative concepts that both courses have in common. To develop a quality assessment the committee thought it best to narrow the focus of the information tested to just the most important concepts.

Appendix C: Scale Score Frequency Distribution Tables

Grade 3 ***NCEXTEND2*** Reading Scale Score Frequency Distribution (2005–06)

Scale Score		Frequency	Cumulative Frequency	Percent	Cumulative Percent
IV	175	1	2779	0.04	100.00
	174	10	2778	0.36	99.96
	173	26	2768	0.94	99.60
	172	32	2742	1.15	98.67
	170	37	2710	1.33	97.52
	169	49	2673	1.76	96.19
III	168	54	2624	1.94	94.42
	167	51	2570	1.84	92.48
	165	64	2519	2.30	90.64
	164	70	2455	2.52	88.34
	163	67	2385	2.41	85.82
	162	63	2318	2.27	83.41
	160	63	2255	2.27	81.14
	159	57	2192	2.05	78.88
	158	56	2135	2.02	76.83
	157	69	2079	2.48	74.81
	155	74	2010	2.66	72.33
II	154	66	1936	2.37	69.67
	153	76	1870	2.73	67.29
	152	82	1794	2.95	64.56
	150	101	1712	3.63	61.60
	149	126	1611	4.53	57.97
	148	120	1485	4.32	53.44
	147	139	1365	5.00	49.12
	145	160	1226	5.76	44.12
	144	176	1066	6.33	38.36
	143	185	890	6.66	32.03
	142	163	705	5.87	25.37
	140	156	542	5.61	19.50
	139	139	386	5.00	13.89
	138	101	247	3.63	8.89
I	137	67	146	2.41	5.25
	135	36	79	1.30	2.84
	134	17	43	0.61	1.55
	133	10	26	0.36	0.94
	132	3	16	0.11	0.58
	130	3	13	0.11	0.47
	129	1	10	0.04	0.36
	127	1	9	0.04	0.32

Grade 4 ***NCEXTEND2*** Reading Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	175	3	2754	0.11	100.00
IV	174	7	2751	0.25	99.89
	172	19	2744	0.69	99.64
	171	41	2725	1.49	98.95
	170	37	2684	1.34	97.46
	168	46	2647	1.67	96.11
III	167	52	2601	1.89	94.44
	166	79	2549	2.87	92.56
	164	49	2470	1.78	89.69
	163	68	2421	2.47	87.91
	162	82	2353	2.98	85.44
	160	75	2271	2.72	82.46
	159	77	2196	2.80	79.74
	158	76	2119	2.76	76.94
	156	96	2043	3.49	74.18
	155	72	1947	2.61	70.70
II	154	95	1875	3.45	68.08
	153	86	1780	3.12	64.63
	151	93	1694	3.38	61.51
	150	117	1601	4.25	58.13
	149	106	1484	3.85	53.89
	147	130	1378	4.72	50.04
	146	147	1248	5.34	45.32
	145	149	1101	5.41	39.98
	143	177	952	6.43	34.57
	142	180	775	6.54	28.14
	141	154	595	5.59	21.60
	139	150	441	5.45	16.01
	138	106	291	3.85	10.57
I	137	76	185	2.76	6.72
	136	1	109	0.04	3.96
	135	47	108	1.71	3.92
	134	23	61	0.84	2.21
	133	19	38	0.69	1.38
	131	8	19	0.29	0.69
	130	2	11	0.07	0.40
	129	2	9	0.07	0.33
	125	1	7	0.04	0.25
	123	6	6	0.22	0.22

Grade 5 ***NCEXTEND2*** Reading Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	176	1	2794	0.04	100.00
IV	174	11	2793	0.39	99.96
	173	21	2782	0.75	99.57
	171	22	2761	0.79	98.82
	170	29	2739	1.04	98.03
	169	44	2710	1.57	96.99
	167	60	2666	2.15	95.42
III	166	59	2606	2.11	93.27
	165	70	2547	2.51	91.16
	163	81	2477	2.90	88.65
	162	82	2396	2.93	85.76
	160	84	2314	3.01	82.82
	159	85	2230	3.04	79.81
	158	86	2145	3.08	76.77
	156	91	2059	3.26	73.69
	155	109	1968	3.90	70.44
	154	113	1859	4.04	66.54
II	152	114	1746	4.08	62.49
	151	119	1632	4.26	58.41
	149	126	1513	4.51	54.15
	148	126	1387	4.51	49.64
	147	115	1261	4.12	45.13
	145	160	1146	5.73	41.02
	144	157	986	5.62	35.29
	142	165	829	5.91	29.67
	141	124	664	4.44	23.77
	140	151	540	5.40	19.33
	138	118	389	4.22	13.92
	137	106	271	3.79	9.70
	136	67	165	2.40	5.91
I	134	46	98	1.65	3.51
	133	23	52	0.82	1.86
	131	12	29	0.43	1.04
	130	10	17	0.36	0.61
	129	2	7	0.07	0.25
	127	2	5	0.07	0.18
	122	1	3	0.04	0.11
	120	2	2	0.07	0.07

Grade 6 ***NCEXTEND2*** Reading Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	177	1	2486	0.04	100.00
IV	176	9	2485	0.36	99.96
	175	12	2476	0.48	99.60
	173	11	2464	0.44	99.12
	172	15	2453	0.60	98.67
	170	29	2438	1.17	98.07
	169	42	2409	1.69	96.90
III	167	37	2367	1.49	95.21
	166	54	2330	2.17	93.72
	164	81	2276	3.26	91.55
	163	58	2195	2.33	88.29
	162	75	2137	3.02	85.96
	160	68	2062	2.74	82.94
	159	86	1994	3.46	80.21
	157	74	1908	2.98	76.75
	156	87	1834	3.50	73.77
	154	107	1747	4.30	70.27
II	153	81	1640	3.26	65.97
	151	111	1559	4.47	62.71
	150	129	1448	5.19	58.25
	149	141	1319	5.67	53.06
	147	138	1178	5.55	47.39
	146	157	1040	6.32	41.83
	144	108	883	4.34	35.52
	143	161	775	6.48	31.17
	141	113	614	4.55	24.70
	140	146	501	5.87	20.15
	138	111	355	4.47	14.28
	137	92	244	3.70	9.81
I	136	73	152	2.94	6.11
	134	37	79	1.49	3.18
	133	18	42	0.72	1.69
	131	11	24	0.44	0.97
	130	5	13	0.20	0.52
	128	1	8	0.04	0.32
	121	7	7	0.28	0.28

Grade 7 ***NCEXTEND2*** Reading Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	178	1	2311	0.04	100.00
	176	7	2310	0.30	99.96
IV	175	8	2303	0.35	99.65
	174	16	2295	0.69	99.31
	172	31	2279	1.34	98.62
	171	16	2248	0.69	97.27
	169	32	2232	1.38	96.58
	168	48	2200	2.08	95.20
	166	50	2152	2.16	93.12
III	165	52	2102	2.25	90.96
	163	65	2050	2.81	88.71
	162	65	1985	2.81	85.89
	161	64	1920	2.77	83.08
	159	69	1856	2.99	80.31
	158	71	1787	3.07	77.33
	156	65	1716	2.81	74.25
	155	93	1651	4.02	71.44
	153	79	1558	3.42	67.42
II	152	85	1479	3.68	64.00
	150	119	1394	5.15	60.32
	149	109	1275	4.72	55.17
	148	125	1166	5.41	50.45
	146	128	1041	5.54	45.05
	145	154	913	6.66	39.51
	143	141	759	6.10	32.84
	142	152	618	6.58	26.74
	140	134	466	5.80	20.16
	139	95	332	4.11	14.37
	137	90	237	3.89	10.26
	136	62	147	2.68	6.36
	135	34	85	1.47	3.68
I	133	30	51	1.30	2.21
	132	6	21	0.26	0.91
	130	6	15	0.26	0.65
	129	3	9	0.13	0.39
	127	2	6	0.09	0.26
	125	1	4	0.04	0.17
	122	3	3	0.13	0.13

Grade 8 ***NCEXTEND2*** Reading Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	176	3	2290	0.13	100.00
IV	175	3	2287	0.13	99.87
	173	18	2284	0.79	99.74
	172	25	2266	1.09	98.95
	171	22	2241	0.96	97.86
	169	29	2219	1.27	96.90
	168	48	2190	2.10	95.63
	166	42	2142	1.83	93.54
III	165	49	2100	2.14	91.70
	163	58	2051	2.53	89.56
	162	63	1993	2.75	87.03
	161	62	1930	2.71	84.28
	159	87	1868	3.80	81.57
	158	70	1781	3.06	77.77
	156	79	1711	3.45	74.72
	155	87	1632	3.80	71.27
	153	78	1545	3.41	67.47
	152	129	1467	5.63	64.06
II	151	112	1338	4.89	58.43
	149	99	1226	4.32	53.54
	148	94	1127	4.10	49.21
	146	124	1033	5.41	45.11
	145	135	909	5.90	39.69
	143	133	774	5.81	33.80
	142	121	641	5.28	27.99
	141	128	520	5.59	22.71
	139	112	392	4.89	17.12
	138	90	280	3.93	12.23
	136	73	190	3.19	8.30
	135	44	117	1.92	5.11
I	133	27	73	1.18	3.19
	132	23	46	1.00	2.01
	131	5	23	0.22	1.00
	129	5	18	0.22	0.79
	128	2	13	0.09	0.57
	126	2	11	0.09	0.48
	125	1	9	0.04	0.39
	122	1	8	0.04	0.35
	121	7	7	0.31	0.31

NCEXTEND2 OCS Occupational English (Full year 2006–07)

Scale Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
126	7	0.19	7	0.19
127	7	0.19	14	0.37
128	5	0.13	19	0.50
129	16	0.42	35	0.93
130	15	0.40	50	1.32
131	31	0.82	81	2.14
132	46	1.22	127	3.36
133	57	1.51	184	4.86
134	61	1.61	245	6.48
135	49	1.30	294	7.77
136	75	1.98	369	9.75
137	104	2.75	473	12.50
138	75	1.98	548	14.49
139	88	2.33	636	16.81
140	74	1.96	710	18.77
141	73	1.93	783	20.70
142	76	2.01	859	22.71
143	86	2.27	945	24.98
144	77	2.04	1022	27.02
145	82	2.17	1104	29.18
146	114	3.01	1218	32.20
147	131	3.46	1349	35.66
148	101	2.67	1450	38.33
149	138	3.65	1588	41.98
150	153	4.04	1741	46.02
151	161	4.26	1902	50.28
152	177	4.68	2079	54.96
153	230	6.08	2309	61.04
154	218	5.76	2527	66.80
156	237	6.26	2764	73.06
158	305	8.06	3069	81.13
160	223	5.89	3292	87.02
162	265	7.01	3557	94.03
165	170	4.49	3727	98.52
169	56	1.48	3783	100.00

Grade 3 ***NCEXTEND2*** Mathematics Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	170	6	2374	0.25	100.00
IV	169	25	2368	1.05	99.75
	167	28	2343	1.18	98.69
	166	53	2315	2.23	97.51
	165	78	2262	3.29	95.28
III	163	79	2184	3.33	92.00
	162	88	2105	3.71	88.67
	161	105	2017	4.42	84.96
	159	112	1912	4.72	80.54
	158	92	1800	3.88	75.82
	156	108	1708	4.55	71.95
	155	121	1600	5.10	67.40
	154	103	1479	4.34	62.30
II	152	118	1376	4.97	57.96
	151	100	1258	4.21	52.99
	149	108	1158	4.55	48.78
	148	99	1050	4.17	44.23
	147	85	951	3.58	40.06
	145	91	866	3.83	36.48
	144	84	775	3.54	32.65
	143	90	691	3.79	29.11
	141	84	601	3.54	25.32
	140	89	517	3.75	21.78
	138	96	428	4.04	18.03
	137	80	332	3.37	13.98
	136	71	252	2.99	10.61
I	134	61	181	2.57	7.62
	133	50	120	2.11	5.05
	132	26	70	1.10	2.95
	130	12	44	0.51	1.85
	129	16	32	0.67	1.35
	127	6	16	0.25	0.67
	126	3	10	0.13	0.42
	125	1	7	0.04	0.29
	123	1	6	0.04	0.25
	120	1	5	0.04	0.21
	116	1	4	0.04	0.17
	115	3	3	0.13	0.13

Grade 4 ***NCEXTEND2*** Mathematics Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	174	9	2256	0.40	100.00
IV	173	14	2247	0.62	99.60
	171	24	2233	1.06	98.98
	170	19	2209	0.84	97.92
	169	41	2190	1.82	97.07
	167	36	2149	1.60	95.26
	166	55	2113	2.44	93.66
III	165	49	2058	2.17	91.22
	163	66	2009	2.93	89.05
	162	67	1943	2.97	86.13
	161	63	1876	2.79	83.16
	159	71	1813	3.15	80.36
	158	75	1742	3.32	77.22
	156	82	1667	3.63	73.89
	155	82	1585	3.63	70.26
	154	71	1503	3.15	66.62
	152	90	1432	3.99	63.48
II	151	84	1342	3.72	59.49
	150	90	1258	3.99	55.76
	149	1	1168	0.04	51.77
	148	108	1167	4.79	51.73
	147	127	1059	5.63	46.94
	146	117	932	5.19	41.31
	144	116	815	5.14	36.13
	143	116	699	5.14	30.98
	141	112	583	4.96	25.84
	140	127	471	5.63	20.88
	139	97	344	4.30	15.25
	137	92	247	4.08	10.95
I	136	68	155	3.01	6.87
	135	28	87	1.24	3.86
	133	28	59	1.24	2.62
	132	11	31	0.49	1.37
	131	15	20	0.66	0.89
	129	2	5	0.09	0.22
	128	2	3	0.09	0.13
	120	1	1	0.04	0.04

Grade 5 ***NCEXTEND2*** Mathematics Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	174	1	2288	0.04	100.00
IV	172	8	2287	0.35	99.96
	171	19	2279	0.83	99.61
	170	40	2260	1.75	98.78
	168	35	2220	1.53	97.03
	167	36	2185	1.57	95.50
	166	48	2149	2.10	93.92
III	165	59	2101	2.58	91.83
	163	55	2042	2.40	89.25
	162	80	1987	3.50	86.84
	161	79	1907	3.45	83.35
	159	76	1828	3.32	79.90
	158	69	1752	3.02	76.57
	157	81	1683	3.54	73.56
	156	74	1602	3.23	70.02
	154	89	1528	3.89	66.78
	153	74	1439	3.23	62.89
	152	71	1365	3.10	59.66
II	150	99	1294	4.33	56.56
	149	88	1195	3.85	52.23
	148	88	1107	3.85	48.38
	146	108	1019	4.72	44.54
	145	97	911	4.24	39.82
	144	113	814	4.94	35.58
	143	103	701	4.50	30.64
	141	134	598	5.86	26.14
	140	105	464	4.59	20.28
	139	94	359	4.11	15.69
	137	84	265	3.67	11.58
	136	83	181	3.63	7.91
I	135	40	98	1.75	4.28
	134	28	58	1.22	2.53
	132	16	30	0.70	1.31
	131	7	14	0.31	0.61
	130	4	7	0.17	0.31
	127	1	3	0.04	0.13
	126	2	2	0.09	0.09

Grade 6 ***NCEXTEND2*** Mathematics Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	180	1	2217	0.05	100.00
	178	2	2216	0.09	99.95
IV	177	2	2214	0.09	99.86
	175	11	2212	0.50	99.77
	174	11	2201	0.50	99.28
	172	14	2190	0.63	98.78
	171	22	2176	0.99	98.15
	169	32	2154	1.44	97.16
	168	34	2122	1.53	95.71
	167	41	2088	1.85	94.18
III	165	52	2047	2.35	92.33
	164	58	1995	2.62	89.99
	162	64	1937	2.89	87.37
	161	68	1873	3.07	84.48
	159	71	1805	3.20	81.42
	158	88	1734	3.97	78.21
	156	88	1646	3.97	74.24
	155	72	1558	3.25	70.28
	153	96	1486	4.33	67.03
	152	87	1390	3.92	62.70
	151	87	1303	3.92	58.77
II	149	88	1216	3.97	54.85
	148	114	1128	5.14	50.88
	146	129	1014	5.82	45.74
	145	131	885	5.91	39.92
	143	152	754	6.86	34.01
	142	125	602	5.64	27.15
	140	139	477	6.27	21.52
	139	120	338	5.41	15.25
	138	91	218	4.10	9.83
I	136	48	127	2.17	5.73
	135	40	79	1.80	3.56
	133	21	39	0.95	1.76
	132	9	18	0.41	0.81
	130	4	9	0.18	0.41
	129	1	5	0.05	0.23
	127	2	4	0.09	0.18
	122	2	2	0.09	0.09

Grade 7 ***NCEXTEND2*** Mathematics Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	185	2	2110	0.09	100.00
	183	2	2108	0.09	99.91
IV	182	4	2106	0.19	99.81
	180	4	2102	0.19	99.62
	178	11	2098	0.52	99.43
	177	9	2087	0.43	98.91
	175	11	2078	0.52	98.48
	173	19	2067	0.90	97.96
	172	21	2048	1.00	97.06
	170	21	2027	1.00	96.07
III	168	41	2006	1.94	95.07
	167	40	1965	1.90	93.13
	165	38	1925	1.80	91.23
	163	38	1887	1.80	89.43
	161	60	1849	2.84	87.63
	160	60	1789	2.84	84.79
	158	86	1729	4.08	81.94
	156	97	1643	4.60	77.87
	155	108	1546	5.12	73.27
	153	118	1438	5.59	68.15
	151	105	1320	4.98	62.56
II	150	127	1215	6.02	57.58
	148	165	1088	7.82	51.56
	146	141	923	6.68	43.74
	145	156	782	7.39	37.06
	143	148	626	7.01	29.67
	142	1	478	0.05	22.65
	141	142	477	6.73	22.61
	139	124	335	5.88	15.88
	138	100	211	4.74	10.00
	136	52	111	2.46	5.26
I	134	29	59	1.37	2.80
	133	17	30	0.81	1.42
	131	7	13	0.33	0.62
	128	3	6	0.14	0.28
	126	1	3	0.05	0.14
	124	1	2	0.05	0.09
	117	1	1	0.05	0.05

Grade 8 ***NCEXTEND2*** Mathematics Scale Score Frequency Distribution (2005–06)

	Scale Score	Frequency	Cumulative Frequency	Percent	Cumulative Percent
	180	2	2129	0.09	100.00
	178	6	2127	0.28	99.91
IV	177	3	2121	0.14	99.62
	175	10	2118	0.47	99.48
	173	19	2108	0.89	99.01
	172	17	2089	0.80	98.12
	170	25	2072	1.17	97.32
	168	31	2047	1.46	96.15
	167	42	2016	1.97	94.69
III	165	52	1974	2.44	92.72
	163	57	1922	2.68	90.28
	162	53	1865	2.49	87.60
	160	77	1812	3.62	85.11
	158	106	1735	4.98	81.49
	157	96	1629	4.51	76.51
	155	91	1533	4.27	72.01
	153	110	1442	5.17	67.73
	152	113	1332	5.31	62.56
II	150	114	1219	5.35	57.26
	148	140	1105	6.58	51.90
	147	140	965	6.58	45.33
	145	159	825	7.47	38.75
	143	130	666	6.11	31.28
	142	128	536	6.01	25.18
	141	1	408	0.05	19.16
	140	106	407	4.98	19.12
	138	104	301	4.88	14.14
	137	72	197	3.38	9.25
I	135	55	125	2.58	5.87
	133	27	70	1.27	3.29
	132	19	43	0.89	2.02
	130	13	24	0.61	1.13
	128	3	11	0.14	0.52
	127	3	8	0.14	0.38
	118	4	5	0.19	0.23

NCEXTEND2 OCS Mathematics Scale Score Frequency Distribution (2006–06)

Scale Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
123	2	0.05	2	0.05
127	2	0.05	4	0.11
128	12	0.32	16	0.43
129	16	0.43	32	0.86
131	22	0.59	54	1.45
132	26	0.70	80	2.15
133	54	1.45	134	3.60
134	64	1.72	198	5.32
135	67	1.80	265	7.12
137	82	2.20	347	9.32
138	91	2.44	438	11.76
139	155	4.16	593	15.93
141	114	3.06	707	18.99
142	161	4.32	868	23.31
143	125	3.36	993	26.67
144	165	4.43	1158	31.10
146	153	4.11	1311	35.21
147	141	3.79	1452	39.00
148	167	4.49	1619	43.49
149	167	4.49	1786	47.97
150	161	4.32	1947	52.30
151	138	3.71	2085	56.00
153	171	4.59	2256	60.60
154	161	4.32	2417	64.92
155	185	4.97	2602	69.89
156	181	4.86	2783	74.75
157	170	4.57	2953	79.32
159	152	4.08	3105	83.40
160	144	3.87	3249	87.27
161	138	3.71	3387	90.98
163	130	3.49	3517	94.47
165	75	2.01	3592	96.48
167	72	1.93	3664	98.42
170	39	1.05	3703	99.46
173	20	0.54	3723	100.00

NCEXTEND2 OCS Science Scale Score Frequency Distribution (2006–06)

Scale Score	Frequency	Percent	Cumulative Frequency	Cumulative Percent
119	1	0.04	1	0.04
121	3	0.13	4	0.17
123	3	0.13	7	0.3
124	3	0.13	10	0.43
125	3	0.13	13	0.56
126	4	0.17	17	0.73
127	8	0.34	25	1.08
128	14	0.6	39	1.68
129	14	0.6	53	2.28
130	24	1.03	77	3.31
132	11	0.47	88	3.78
133	23	0.99	111	4.77
134	32	1.38	143	6.15
135	29	1.25	172	7.4
136	30	1.29	202	8.69
138	38	1.63	240	10.32
139	39	1.68	279	12
140	70	3.01	349	15.01
141	68	2.92	417	17.94
142	68	2.92	485	20.86
144	84	3.61	569	24.47
145	96	4.13	665	28.6
146	95	4.09	760	32.69
147	110	4.73	870	37.42
149	131	5.63	1001	43.05
150	135	5.81	1136	48.86
151	146	6.28	1282	55.14
153	204	8.77	1486	63.91
154	162	6.97	1648	70.88
156	183	7.87	1831	78.75
158	159	6.84	1990	85.59
161	141	6.06	2131	91.66
163	103	4.43	2234	96.09
166	62	2.67	2296	98.75
169	29	1.25	2325	100

Appendix D: Testing Code of Ethics

Testing Code of Ethics (16 NCAC 6D .0306)

Testing Code of Ethics

Introduction

In North Carolina, standardized testing is an integral part of the educational experience of all students. When properly administered and interpreted, test results provide an independent, uniform source of reliable and valid information, which enables:

• *students* to know the extent to which they have mastered expected knowledge and skills and how they compare to others;
• *parents* to know if their children are acquiring the knowledge and skills needed to succeed in a highly competitive job market;
• *teachers* to know if their students have mastered grade-level knowledge and skills in the curriculum and, if not, what weaknesses need to be addressed;
• *community leaders and lawmakers* to know if students in North Carolina schools are improving their performance over time and how the students compare with students from other states or the nation; and
• *citizens* to assess the performance of the public schools.

Testing should be conducted in a fair and ethical manner, which includes:

Security
• assuring adequate security of the testing materials before, during, and after testing and during scoring
• assuring student confidentiality

Preparation
• teaching the tested curriculum and test-preparation skills
• training staff in appropriate testing practices and procedures
• providing an appropriate atmosphere

Administration
• developing a local policy for the implementation of fair and ethical testing practices and for resolving questions concerning those practices
• assuring that all students who should be tested are tested
• utilizing tests which are developmentally appropriate
• utilizing tests only for the purposes for which they were designed

Scoring, Analysis and Reporting
• interpreting test results to the appropriate audience
• providing adequate data analyses to guide curriculum implementation and improvement

Because standardized tests provide only one valuable piece of information, such information should be used in conjunction with all other available information known about a student to assist in improving student learning. The administration of tests required by applicable statutes and the

use of student data for personnel/program decisions shall comply with the *Testing Code of Ethics* (16 NCAC 6D .0306), which is printed on the next three pages.

Testing Code of Ethics (16 NCAC 6D .0306)

.0306 TESTING CODE OF ETHICS

(a) This Rule shall apply to all public school employees who are involved in the state testing program.

(b) The superintendent or superintendent's designee shall develop local policies and procedures to ensure maximum test security in coordination with the policies and procedures developed by the test publisher. The principal shall ensure test security within the school building.

(1) The principal shall store test materials in a secure, locked area. The principal shall allow test materials to be distributed immediately prior to the test administration. Before each test administration, the building level test coordinator shall accurately count and distribute test materials. Immediately after each test administration, the building level test coordinator shall collect, count, and return all test materials to the secure, locked storage area.

(2) "Access" to test materials by school personnel means handling the materials but does not include reviewing tests or analyzing test items. The superintendent or superintendent's designee shall designate the personnel who are authorized to have access to test materials.

(3) Persons who have access to secure test materials shall not use those materials for personal gain.

(4) No person may copy, reproduce, or paraphrase in any manner or for any reason the test materials without the express written consent of the test publisher.

(5) The superintendent or superintendent's designee shall instruct personnel who are responsible for the testing program in testing administration procedures. This instruction shall include test administrations that require procedural modifications and shall emphasize the need to follow the directions outlined by the test publisher.

(6) Any person who learns of any breach of security, loss of materials, failure to account for materials, or any other deviation from required security procedures shall immediately report that information to the principal, building level test coordinator, school system test coordinator, and state level test coordinator.

(c) Preparation for testing.

(1) The superintendent shall ensure that school system test coordinators:

(A) secure necessary materials;

(B) plan and implement training for building level test coordinators, test administrators, and proctors;

(C) ensure that each building level test coordinator and test administrator is trained in the implementation
of procedural modifications used during test administrations; and

(D) in conjunction with program administrators, ensure that the need for test modifications is documented and that modifications are limited to the specific need.

(2) The principal shall ensure that the building level test coordinators:

(A) maintain test security and accountability of test materials;

(B) identify and train personnel, proctors, and backup personnel for test administrations; and

(C) encourage a positive atmosphere for testing.

(3) Test administrators shall be school personnel who have professional training in education and the state
testing program.

(4) Teachers shall provide instruction that meets or exceeds the standard course of study to meet the needs of the specific students in the class. Teachers may help students improve test-taking skills by:

(A) helping students become familiar with test formats using curricular content;

(B) teaching students test-taking strategies and providing practice sessions;

(C) helping students learn ways of preparing to take tests; and

(D) using resource materials such as test questions from test item banks, testlets and linking documents in instruction and test preparation.

(d) Test administration.

(1) The superintendent or superintendent's designee shall:

(A) assure that each school establishes procedures to ensure that all test administrators comply with test publisher guidelines;

(B) inform the local board of education of any breach of this code of ethics; and

(C) inform building level administrators of their responsibilities.

(2) The principal shall:

(A) assure that school personnel know the content of state and local testing policies;

(B) implement the school system's testing policies and procedures and establish any needed school policies and procedures to assure that all eligible students are tested fairly;

(C) assign trained proctors to test administrations; and

(D) report all testing irregularities to the school system test coordinator.

(3) Test administrators shall:

(A) administer tests according to the directions in the administration manual and any subsequent updates developed by the test publisher;

(B) administer tests to all eligible students;

(C) report all testing irregularities to the school system test coordinator; and

(D) provide a positive test-taking climate.

(4) Proctors shall serve as additional monitors to help the test administrator assure that testing occurs fairly.

(e) Scoring. The school system test coordinator shall:

(1) ensure that each test is scored according to the procedures and guidelines defined for the test by the test publisher;

(2) maintain quality control during the entire scoring process, which consists of handling and editing documents, scanning answer documents, and producing electronic files and reports. Quality control shall address at a minimum accuracy and scoring consistency.

(3) maintain security of tests and data files at all times, including:

(A) protecting the confidentiality of students at all times when publicizing test results; and

(B) maintaining test security of answer keys and item-specific scoring rubrics.

(f) Analysis and reporting. Educators shall use test scores appropriately. This means that the educator recognizes that a test score is only one piece of information and must be interpreted together with other scores and indicators. Test data help educators understand educational patterns and practices. The superintendent shall ensure that school personnel analyze and report test data ethically and within the limitations described in this paragraph.

(1) Educators shall release test scores to students, parents, legal guardians, teachers, and the media with interpretive materials as needed.

(2) Staff development relating to testing must enable personnel to respond knowledgeably to questions related to testing, including the tests, scores, scoring procedures, and other interpretive materials.

(3) Items and associated materials on a secure test shall not be in the public domain. Only items that are within the public domain may be used for item analysis.

(4) Educators shall maintain the confidentiality of individual students. Publicizing test scores that contain the names of individual students is unethical.

(5) Data analysis of test scores for decision-making purposes shall be based upon:

(A) dissagregation of data based upon student demographics and other collected variables;

(B) examination of grading practices in relation to test scores; and

(C) examination of growth trends and goal summary reports for state-mandated tests.

(g) Unethical testing practices include, but are not limited to, the following practices:

(1) encouraging students to be absent the day of testing;

(2) encouraging students not to do their best because of the purposes of the test;

(3) using secure test items or modified secure test items for instruction;

(4) changing student responses at any time;

(5) interpreting, explaining, or paraphrasing the test directions or the test items;

(6) reclassifying students solely for the purpose of avoiding state testing;

(7) not testing all eligible students;

(8) failing to provide needed modifications during testing, if available;

(9) modifying scoring programs including answer keys, equating files, and lookup tables;

(10) modifying student records solely for the purpose of raising test scores;

(11) using a single test score to make individual decisions; and

(12)misleading the public concerning the results and interpretations of test data.

(h) In the event of a violation of this Rule, the SBE may, in accordance with the contested case provisions of Chapter 150B of the General Statutes, impose any one or more of the following sanctions:

(1) withhold ABCs incentive awards from individuals or from all eligible staff in a school;

(2) file a civil action against the person or persons responsible for the violation for copyright infringement or for any other available cause of action;

(3) seek criminal prosecution of the person or persons responsible for the violation; and

(4) in accordance with the provisions of 16 NCAC 6C .0312, suspend or revoke the professional license of the person or persons responsible for the violation.

History Note: Authority G.S. 115C-12(9)c.; 115C-81(b)(4);
Eff. November 1, 1997;
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