



NCEXTEND1 Mathematics Alternate Assessments at Grades 3–8 North Carolina Assessment Specifications

Purpose of the Assessments

- The Grades 3–8 NCEXTEND1 Mathematics alternate assessments measure students' proficiency on the [North Carolina Extended Content Standards for Mathematics](#), adopted by the North Carolina State Board of Education in September 2017.
- Assessment results will be used for school and district accountability under the accountability model and for federal reporting purposes.

Curriculum Cycle

- September 2017: North Carolina State Board of Education adoption of the [North Carolina Extended Content Standards for Mathematics](#)
- 2017–2018: Items developed and field-tested for the Grades 3–8 NCEXTEND1 Mathematics Alternate Assessments
- 2018–2019: First operational administration of Grades 3–8 NCEXTEND1 Mathematics Alternate Assessments (Edition 4)

Standards

- The eight [Standards of Mathematical Practice](#) help develop processes and proficiencies in students such as problem solving, reasoning, proof, communication, representations, and connections as well as conceptual understanding and procedural fluency. Test items that are developed for content standards may link to one or more of the Standards for Mathematical Practice.

Developing Assessments

- North Carolina educators were recruited and trained to write new items. The diversity among the item writers and their knowledge of the current standards was addressed during recruitment. Trained North Carolina educators also review items and suggest improvements, if necessary. The use of North Carolina educators to develop and review items strengthens the content validity of the items.
- For an in-depth explanation of the test development process see State Board Policy [Multiple-Choice Test Development](#) (TEST-013) or reference the [Test Development Process: Item, Selection, and Form Development document](#).

Prioritization of Standards

- Members of the North Carolina Department of Public Instruction (NCDPI)/Test Development Section invited North Carolina educators to collaborate and develop recommendations for a prioritization of standards indicating the relative importance of each standard, the anticipated instructional time, and the appropriateness of the standard for test design.
- Subsequently, Standards, Curriculum and Instruction and test development staff from

the NCDPI met to review the recommendations from the teacher panels and to adopt final weight distributions across the domains for each grade level.

- Some content standards in the Extended Content Standards will not be directly assessed in the assessments because either (1) the standard cannot be appropriately assessed during a limited time assessment using multiple-choice or (2) the standard is better assessed through another, more inclusive standard.
- *Tables 1, 2, and 3 describe the range of items by conceptual category and Depth of Knowledge (DOK) that will appear on the Grades 3–8 NCEXTEND1 Mathematics Alternate Assessments (Edition 4).*

Table 1: NCEXTEND1 Mathematics Grades 3–5 Domain Distribution

Domain	Grade 3	Grade 4	Grade 5
Operations and Algebraic Thinking	26–30%	26–30%	11–15%
Number and Operations in Base Ten	22–26%	19–23%	41–45%
Number and Operations - Fractions	15–19%	15–19%	11–15%
Measurement and Data, Geometry	34–37%	—	—
Measurement and Data	—	15–19%	15–19%
Geometry	—	19–23%	19–23%
Total	100%	100%	100%

Table 2: NCEXTEND1 Mathematics Grades 6–8 Domain Distribution

Domain	Grade 6	Grade 7	Grade 8
Ratios and Proportional Relationships	15–19%	11–15%	—
The Number System	26–30%	19–23%	15–19%
Expressions and Equations	19–23%	15–19%	26–30%
Functions	—	—	15–19%
Geometry	15–19%	30–34%	18–22%
Statistics and Probability	15–19%	19–23%	11–15%
Total	100%	100%	100%

Table 3: NCEXTEND1 Mathematics Grades 3–8 DOK Distribution

Grades	DOK1	DOK2
3–5	60–70%	30–40%
6–8	50–60%	40–50%

Cognitive Rigor and Item Complexity

- Items for the Grades 3–8 NCEXTEND1 Mathematics Alternate Assessments were designed, developed, and classified to ensure that the cognitive rigor of the operational test forms align to the cognitive complexity and demands of Webb’s Depth of Knowledge and the Extended Content Standards for Mathematics. These items will require students to not only recall information, but also apply concepts and skills and make decisions.

Testing Structure and Administration

- For the Grades 3–8 NCEXTEND1 Mathematics Alternate Assessments, the items are presented online in two (2) sets. There is no formalized break between the sets. Students have two (2) trials each for the first and second set of test items. The first trial will

consist of multiple-choice items with three (3) answer choices. If the student misses the answer in the first trial, the incorrect answer is removed from the choices for the second trial. The test will terminate at the end of set one for students who do not answer enough items correctly. Students who answer enough items correctly in set one will continue to set two. The assessment ends after the last item in set two.

- Table 4 provides the item count details for Sets One and Two.

Table 4: NCEXTEND1 Grades 3–8 Operational and Field Test Items by Set

Grades	Set	Operational	Field Test	Total
3–8	Set 1	17	3	20
	Set 2	10	2	12
Total	–	27	5	32

Types of Items and Supplemental Materials

- The following checklists contain the required materials assessors will need for the test administration:
 - the Assessment Guide for the NCEXTEND1 Alternate Assessment
 - a device meeting all technical requirements (Use the Technical Requirements for NCTest located at <http://center.ncsu.edu/nct>.)
 - one grade-appropriate test card kit per student assessed
 - a four-function calculator with memory key (for grades 6–8 and 10 only)
 - a supply of scratch paper
 - sharpened pencils with erasers or other student-specific writing utensils
 - counters/ objects (not required by the assessment, but may be used if they are included in the way in which a student is routinely taught)
- Before the test administration date, teachers must complete the online mathematics practice activity. The practice activity can help teachers in determining which administration option is most appropriate for their student.
- Released items for the Grades 3–8 NCEXTEND1 Mathematics Alternate Assessments are available on the [NCEXTEND1 webpage](#). The released items for NCEXTEND1 may not reflect the breadth of standards assessed and/or the range of item difficulty on the NCEXTEND1 assessment.
 - Released items and forms may be used by Public School Units to help acquaint students with items.
 - These materials must not be used for personal or financial gain.

Test Cycle and Delivery Mode

- The alternate assessment must be administered during the last ten (10) days of the school year. All student in membership at grades 3–8 (according to PowerSchool) are expected to participate with or without accommodations in the standard administration of the alternate assessments in mathematics.
- The Grades 3–8 NCEXTEND1 Mathematics Alternate Assessments are teacher-facilitated online assessments that are administered individually to each student.

- The alternate assessments are only provided in English. Native language translation versions are not available. North Carolina [G.S. §115C-81.45\(a\)](#) requires all teachers and principals to conduct classes except foreign language classes in English.

Additional Resources

- Achievement level information is available on the [NCEXTEND1 webpage](#).
- A sample Individual Student Reports for the Grades 3–8 NCEXTEND1 Mathematics Alternate Assessment is available on the NCDPI [Individual Student Reports \(ISR\) webpage](#).