



# NC *Extended Content Standards* for Mathematics

## Grades 3–8 NCEXTEND1 Mathematics Alternate Assessment

### North Carolina Assessment Specifications

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#### Purpose of the Assessments

- Edition 5 grades 3–8 mathematics alternate assessments will measure students’ proficiency on the [North Carolina Extended Content Standards \(ECS\) 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 ECS.
- 2017-18: Developed and field-tested items for the NCEXTEND1 Alternate Assessments.
- 2018-19: Operational administration of Edition 5 assessments aligned to the new ECS.

#### 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 instructional validity of the items.

#### Testing Structure and Administration

- For grades 3–8, 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.

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

## 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 Multiple-Choice (MC), subsequently, Standards, Curriculum and Instruction and test development staff from the NCDPI met to review the results from the teacher panels and to develop weight distributions across the domains for each grade level.
- Some content standards in the ECS 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 Edition 5 assessments.

*Table 1: NCEXTEND1 Domain Distribution Elementary Grades 3–5*

Domain	Grade 3	Grade 4	Grade 5
Operations and Algebraic Thinking	25-29%	26-30%	11-14%
Number and Operations in Base Ten	22-26%	19-23%	42-45%
Number and Operations - Fractions	14-18%	14-18%	11-15%
Measurement and Data, Geometry	34-37%		
Measurement and Data		14-18%	15-19%
Geometry		19-23%	19-22%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

*Table 2: NCEXTEND1 Domain Distribution Middle Grades 6–8*

Domain	Grade 6	Grade 7	Grade 8
Ratios and Proportional Relationships	15-19%	11-15%	
The Number System	26-30%	19-22%	15-19%
Expressions and Equations	19-22%	15-19%	25-29%
Functions			15-19%
Geometry	15-19%	30-33%	18-22%
Statistics and Probability	15-19%	19-22%	11-15%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Table 3: DOK Distribution NCEXTEND1 Math Edition 4

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

### Cognitive Rigor and Item Complexity

- Assessment items 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 ECS for Mathematics. These items will require students to not only recall information, but also apply concepts and skills and make decisions.

### Types of Items and Supplemental Materials

The following checklists contain the required materials assessors will need for the test administration.

- the Assessor’s 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 students.

### 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 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. [Chapter 115C-81 Basic Education Program](#) of the North Carolina General Statutes requires all teachers and principals to conduct classes except foreign language classes in English.