



# **Accessible Tests Are Required for Braille Readers**

A Position Statement  
of the Braille Authority of North America

Approved May 2025

## **Official Braille Codes in the United States**

The Braille Authority of North America (BANA) sets the rules and guidelines for braille transcriptions in the United States and Canada. In 2012, the United States members of BANA adopted Unified English Braille (UEB) to replace *English Braille, American Edition* (EBAE) with full implementation by 2016. At the same time, the U.S. voted to maintain *The Nemeth Code for Mathematics and Science Notation* (Nemeth) so that braille readers could have both UEB and Nemeth.

As of January 2016, the official braille codes for use in the United States are UEB, Nemeth Code, Music Braille code, and the International Phonetic Alphabet (IPA). All new braille transcriptions are created using only these codes. This includes standardized tests for all subjects and grade levels. EBAE is no longer supported.

## **Tests and Practice Materials Specifically for Mathematics or Science**

In the United States, there are two approved codes—UEB or Nemeth Code—for mathematical and scientific subjects, referred to as "technical material." Both codes are capable of representing math and science information; they are simply structured differently. UEB is a complete code that can be used to read and write both literary and technical content in braille. Nemeth Code is a separate set of symbols, whose primary purpose is to present mathematical and scientific notation; its symbols are embedded within a UEB setting.

States should be aware that both UEB and Nemeth are official codes for use in the U.S. for transcription of technical materials. To differentiate transcription requests for the different codes, terms used to refer to technical materials in UEB are "UEB Math/Science" or "UEB Technical." Terms used to refer to technical materials using Nemeth are "UEB with Nemeth" or "Nemeth Within UEB Contexts."

What is most important for test producers and state testing departments to realize is that the decision of which code students use "should be made based on braille readers' individual needs" (BANA, 2015). This decision should not be made by a state or external agency but based on the accommodations listed in the student's Individualized Education Program (IEP) or 504 Plan. States should ensure that braille assessments are available in the codes that students are learning and using in the classroom.

## Testing Accommodations

Braille readers need to be able to use the same accommodations on a test as they use in their educational settings as documented in their IEP or 504 Plan. This includes practice tests and other materials used in the classroom for test preparation.

Braille readers may take tests on paper ("hard copy" embossed braille) but increasingly tests are delivered electronically. These can be accessed through assistive technology such as a refreshable braille display and/or a computer with speech access. All tests should be created following the principles of universal design and computer-based tests should follow the Web Content Accessibility Guidelines (International Test Commission, 2022). Test content needs to be reviewed by individuals familiar with the needs of braille-reading students prior to test release to ensure that test items are presented fairly to measure the students' knowledge and abilities.

However, even with electronic delivery, students will also need to have some parts of the tests in hard copy braille. Relying solely on refreshable braille and screen readers has significant limitations. These limitations can lead to problems, including but not limited to:

- increased cognitive load
- assessment of technology skills rather than conceptual knowledge
- invalidation of the construct being measured

Test items that need graphics such as diagrams, graphs, maps, and spatial materials including tables and charts should be embossed on demand or produced prior to the test and placed in bound volumes.

## BANA's Position

- Standardized tests must only be transcribed in official braille codes. EBAE should not be used.
- For math and science tests, UEB or Nemeth Code should be provided as indicated on a student's IEP or 504 Plan.
- Students who read and write braille must have access to standardized tests that match the accommodations they have been using to learn curricular content.
- Modifications to the print-based test, as approved by the publisher and stakeholders, are needed prior to the creation of braille assessments in order to ensure braille presentation is fair and valid.

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BANA Member Organizations [www.brailleauthority.org](http://www.brailleauthority.org): Alternate Text Production Center (ATPC) • American Council of the Blind (ACB) • American Foundation for the Blind (AFB) • American Printing House for the Blind (APH) • Association for Education and Rehabilitation of the Blind and Visually Impaired (AER) • California Transcribers and Educators for the Blind and Visually Impaired (CTEBVI) • Center for Inclusive Design & Innovation (CIDI) • Clovernook Center for the Blind and Visually Impaired (CCBVI) • CNIB (Canadian National Institute for the Blind [former]) • Hadley • National Braille Association (NBA) • National Braille Press (NBP) • National Federation of the Blind (NFB) • National Library Service for the Blind and Print Disabled (NLS) • Perkins School for the Blind

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