

Pre-Kindergarten Nemeth Braille Code Curriculum  
Module 2: Nemeth Numerals 1-3  
Teacher Reference Materials

*Prerequisite skills:*

- Ability to use rote counting number words in order
- Ability to verbally count objects
- Ability to tactually identify a braille cell and the numeric indicator

*Math symbols and concepts, including braille knowledge, addressed:*

- Counting
- Braille cell
- Numeric indicator
- Numerals 1-3

*Objectives:*

The student will be able to:

- 1) Tactually identify the braille cell, numeric indicator, and numerals from 1-3
- 2) Use the Accessible Equation Editor and/or braillewriter to write the numerals 1-3
- 3) Represent a number ranging from 1-3 by producing a set of objects with concrete materials and Nemeth Braille Code numerals

*Other ECC skills addressed:*

Listening skills; following directions; tactual discrimination; left-to-right tracking; hand positioning; light touch (as opposed to scrubbing)

*Teaching tips:*

- This module should be completed across multiple sessions.
- The swing cell from the American Printing House for the Blind provides a concrete model of the relationship between the dots in a full braille cell and the keys on a braillewriter.
- It is very important to use the correct finger on each key when learning new Nemeth symbols. This will help the student become accurate in their writing!
- If your student is using a refreshable braille display or notetaker with the Accessible Equation Editor, explain about the other buttons, including the buttons on the far right and far left. Also ensure that

your student knows how to use the space bar to space between braille symbols.

*Materials/technology needed:*

- Accessible Equation Editor and/or braillewriter
- Braille paper
- 2 swing cells and pegs
- Index cards
- Brightly colored construction paper
- Glue stick
- Textured paper/material/small objects that remind student of a train
- Bin or bucket

*Optional materials for follow-up activities or adaptation of activities:*

- Teddy bear manipulatives or other small objects that can be counted
- Two ½ dozen muffin tins and 12 small balls

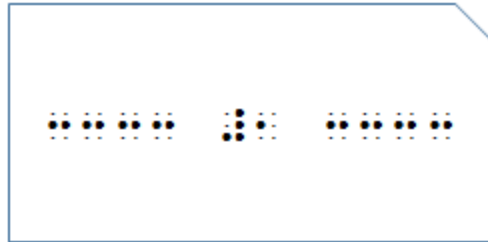
*Explanation of activities embedded into module:*

- 1) If you do not have two swing cells, use two ½ dozen muffin tins with tennis balls for an easy way for the child to “build” the Nemeth numerals. Another variation would be to use a ½ dozen egg crate or a dozen egg crate cut in half with plastic eggs or golf balls that include different textures.



- 2) Create a tactual numeral page that can be displayed or taken home. The student will need a sheet of braille paper or brightly colored construction paper, a braillewriter, and one object that reminds him/her of a train! The student will write 1 in Nemeth. Then, the student will glue one object onto the paper! The same process will also be completed for the numerals 2 and 3 later in the module and gluing 2 and 3 objects respectively on the paper.

- 3) Create flash cards with the index cards. Cut out the upper right corner for easy identification of orientation. Make five flash cards for each numeral. Use lines of dots 2-5 for leading in and away from the numeral. See below for an example.



The flash cards will be used for practice of reading numerals at first. They will also be used to put the numerals in order beginning with 1-5 in the next module. Give the student one number card at a time. Make sure that it is oriented with the cut out corner at the upper right.

- 4) Place 3 (and then 5 in the next module) objects in a bin. Then have students select some of the items. Afterwards, have the students count the items and then braille the Nemeth numeral. Now you select some of the objects. Have the student count the items and then braille the Nemeth numeral!

*Materials Commercially Available:*

American Printing House for the Blind ([www.aph.org](http://www.aph.org)) sells the swing cell. The catalog number is 6-78041-00.

Additional materials that could be used from the American Printing House for the Blind ([www.aph.org](http://www.aph.org)) include

- Feel 'n Peel Sheets: Carousel of Textures (1-08863-00)
- Hundreds boards and Manipulatives Kit (1-03105-00)
- FOCUS in Mathematics Kit, Second Edition (with print Teacher's Guide 1-08280-01, with braille Teacher's Guide 1-08281-01)
- Small Work-Play Tray with Dividers (1-03751-00, 1-03770-00) *also available within the FOCUS in Mathematics Kit*
- Textured sorting Circles and Shapes (1-08834-00)
- MathBuilders Unit 1: Matching, Sorting, and Patterning (with print Teacher's Guide 7-03560-00, with braille Teacher's Guide 5-03560-00)
- \*Picture Maker Wheatley Tactile Diagramming Kit (1-08838-00) *Many of these objects and a blue felt board are available in the MathBuilders Unit 1 and the FOCUS in Mathematics Kits mentioned above.*
- \*Feel 'n Peel Stickers: Nemeth Braille-Print Numbers 0-100 (1-08876-00)

- \*Feel 'n Peel Point Symbols or Stars (1-08846-00; 1-08868-00; 1-08867-00)

*\* WARNING: CHOKING HAZARD -- Small Parts. Not intended for children ages 5 and under without adult supervision.*

*Fun Facts from:*

Science Kids <http://www.sciencekids.co.nz/sciencefacts/vehicles/trains.html>

DK <http://www.dkfindout.com/uk/transport/history-trains/>

History Channel <http://www.history.com/news/history-lists/8-things-you-may-not-know-about-trains>