

Pre-Kindergarten Nemeth Braille Code Curriculum  
Module 4: Nemeth Numerals 6-7  
Teacher Reference Materials

*Prerequisite skills:*

- Ability to use rote counting number words in order
- Ability to verbally count objects
- Ability to tactually identify the numeric indicator and the numerals 1-5
- Ability to write the numerals 1-5
- Ability to put the numbers 1-5 in order

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

- Counting
- Numeric indicator
- Numerals 1-7
- Concepts of "before" and "after"

*Objectives:*

The student will be able to:

- 1) Tactually identify the numerals from 1-7
- 2) Use the Accessible Equation Editor and/or braillewriter to write the numerals 1-7
- 3) Represent a number ranging from 1-7 by producing a set of objects with concrete materials and Nemeth numerals
- 4) Use concrete materials (for "before" relating to one less and "after" relating to one more) and/or number cards in order and then determine what number comes before or after a specific number from 1-7 in Nemeth Code only

*Other ECC skills addressed:*

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

*Teaching tips:*

- This module should be completed across multiple sessions.
- Note that the beginning tracking activities are emphasizing the shape of the numeral.

- Pay attention to the child's hand movements. Give help and model tracking if the student does not use both hands or if the student does not move both hands smoothly from left to right.
- As previously mentioned, the swing cell from the American Printing House for the Blind provides a concrete model of the relationship between the dots in a 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!

*Materials/technology needed:*

- Accessible Equation Editor and/or braillewriter
- Braille paper
- 2 swing cells and pegs
- Index cards
- Brightly colored construction paper
- Plastic cup
- Glue stick or glue
- Craft sticks
- Assortment of foam stickers
- Textured paper/material/small objects
- Outline/pattern of train cars from Texas State Library  
[https://www.tsl.texas.gov/ld/projects/trc/2008/manual/bil\\_trains.html#\\_Color\\_Train](https://www.tsl.texas.gov/ld/projects/trc/2008/manual/bil_trains.html#_Color_Train)

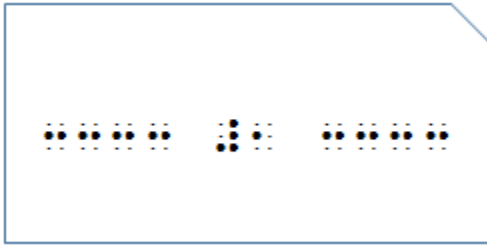
*Optional materials for follow-up activities or adaptation of activities:*

- Scented stickers, Wikki Stix, buttons, or textured paper
- Two ½ dozen muffin tins and 12 small balls
- 2 or more shoeboxes
- String
- Scissors
- 7 stuffed animals and/or small toys

*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 carton or a dozen egg carton cut in half with plastic eggs or golf balls.
- 2) 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 the next page for an example.



The flash cards will be used to practice reading numerals at first. They will also be used to put the numbers in order in this and later modules. Give the student one number card at a time. Make sure that it is oriented with the cut out corner at the upper right.

- 3) The student will create 6 lines of full braille cells and numerals 6s for reading and writing practice. The student will need a sheet of braille paper and braillewriter. Remind the student to make some of the lines long and some of the lines short. This activity will also provide an opportunity for the student to check their work as they braille. This is an important work habit to build when a student is first learning to read and write. After the student checks his/her work, have the student find the shortest line of braille and then the longest line of braille.
- 4) The student will create trains using foam stickers and craft sticks in this activity. The student will need a set of flash cards labeled with numerals 1-7, craft sticks and an assortment of foam stickers. Make sure that the foam stickers are small enough that they will fit on the craft sticks.

The student will begin by shuffling the flash cards and then drawing a card. Afterwards, he/she will read the numeral on the card and then build a "train" on a craft stick using that number of foam stickers placed on the craft stick. If you would like, the student and a friend (or you) can take turns drawing a card and creating a craft stick train! Include print numbers on the flash cards if needed for the friend. Once the student is finished, keep the craft stick trains for a future activity.



- 5) The student will use the craft stick trains again to practice counting and writing the numerals 1-7. He/she will need a sheet of braille paper, braillewriter, a plastic cup, and craft stick trains. Begin by putting all of the craft stick trains in a plastic cup. Then have the student take one of the craft stick trains out of the cup and count the number of stickers on it. Then have the student write the numeral on the Accessible Equation Editor and/or braillewriter. Have the student repeat the process until all of the craft stick trains are gone.
- 6) Continue to make a number train. The student will need: railroad cars with numerals 1-5 from the last module, brightly colored construction paper or braille paper cut into train car shapes, glue stick, and braille numerals 6-7 on small cards. First, have the student find the numeral 6 and glue it onto a railroad car. Then, have the student find the numeral 7 and glue it onto another railroad car. Then have the student put the railroad cars into order from 1 to 7.

If you would like, the student can “decorate” the railroad cars with scented stickers, Wikki sticks, buttons, or textured paper. Feel 'n Peel Sheets: Carousel of Textures (catalog number 1-08863-00) from American Printing House for the Blind has a variety of adhesive backed and non-adhesive backed textured paper.

It may help to place the railroad cars on a nonslip surface such as rubber shelf liner so they will not move as much. You may also use a strip of sticky back Velcro on the back side of each railroad car and then arrange the railroad cars on a long strip of Velcro on the student’s desk. You can also paste the railroad cars in place on a large piece of construction paper when they are correctly laid out.

Encourage verbalization of the names of the ordinal positions such as first and second while the children work. Use this activity to reinforce counting as well.

Keep the railroad cars and in a later module the student will have the opportunity to build the number train to 10.

- 7) In order to build a “shoebox” train, the student will need at least 2 shoeboxes, brightly colored construction paper, string, scissors and glue. He/she will also need a set of flash cards with numerals 1-7. Before building a “shoebox” train, read aloud the book entitled *Locomotive* by Brian Floca and learn how a transcontinental railroad

was built in the 1800s. A braille copy of the book is available from the American Printing House for the Blind (T-N2061-10).

Afterwards have the student tell you what he/she learned about train travel in the 1800s. Then you will be ready to make a "shoebox" train to pull around the school. First, have the student take the lids off the shoeboxes as they will not be used as part of the train. Second, have the student cover the sides of the shoeboxes with construction paper. The student can also use textured paper or material if you would prefer. Feel 'n Peel Sheets: Carousel of Textures (catalog number 1-08863-00) from American Printing House for the Blind has a variety of adhesive backed and non-adhesive backed textured paper.

Third, have the student make pretend wheels for the railroad cars. Help the student cut circles out of textured paper and glue them on as the train wheels. The student can also use large buttons or foam stickers in the shape of circles for the train wheels if you would prefer.

Poke small holes in the sides of the boxes and help your student thread some pieces of string (or shoelaces) through the holes. Then help the student tie knots in the string so the string or shoelaces will not slip back through the holes. Don't forget to include a string or rope on the front too.

The student may also enjoy "decorating" the railroad cars with scented stickers, Wikki sticks, buttons, or textured paper/material. Once the student is finished, allow him/her to pull the train around the room. Pretend that the train is traveling from station to station.

Now, have the student count how many railroad cars and write the numeral on either the Accessible Equation Editor and/or braillewriter. Next have the student count how many wheels are on the first railroad car and write the numeral. Next have the student count how many wheels are on the second railroad car and write the numeral.

Afterwards, have the student draw a flash card. Have the student place that many stuffed animals or toys in the railroad cars and pull them to a different train station. When the student arrives at the train station, announce the name of the train station and take the stuffed animals or toys out of the railroad cars. Repeat the process until the student has used all of the flash cards. If you would prefer, the student and a friend (or you) can take turns drawing flash cards and playing with the train!

### *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 also 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:*

<http://www.trainsforkids.co.uk/activities/online-train-games/best-train-facts-for-kids/>

Definition of boxcar: <http://www.macmillandictionary.com>