Kindergarten Nemeth Braille Code Curriculum
Module 1: Review of Nemeth Numbers 0-10 and Tally Marks
Teacher Reference Materials

Prerequisite skills:

- Ability to use rote counting number words in order
- Ability to verbally count objects
- Ability to tactually identify the numbers 0-10
- Ability to write the numbers 0-10

Math symbols and concepts, including braille knowledge, addressed:

- Counting to answer "how many"
- Numeric indicator
- Numbers 0-10
- Tally marks

Objectives:

The student will be able to:

1) Tactually identify and read the numbers from 0-10
2) Tactually identify the tally mark in Nemeth code
3) Use the Accessible Equation Editor and/or braillewriter to write the numbers 0-10
4) Use the Accessible Equation Editor and/or braillewriter to write the tally mark
5) Represent a given number ranging from 1-10 by making a set of tally marks
6) Count to answer "how many" questions about as many as 10 tally marks (in groups of 5) arranged in a line or rectangular array

Other ECC skills addressed:

Listening skills; concept development; following directions; tactual discrimination; left-to-right tracking; taking turns; hand positioning; light touch (as opposed to scrubbing); career exploration; recreation and leisure

Teaching tips:

- If the student has not been exposed to the Nemeth numbers 0-10 yet, use the Pre-Kindergarten curriculum in order to teach the numbers 0-10 before beginning the Kindergarten unit.
- If the student has completed the Pre-Kindergarten curriculum yet continues to experience difficulty reading and writing any of the

numbers, you may use activities from the Pre-Kindergarten curriculum to teach and/or reinforce the numbers 0-10.
- This module should be completed across multiple sessions.
- It may also help to place the flash cards and hard copy braille on a nonslip surface such as rubber shelf liner so they will not move as the student is reading.
- When you initially introduce the number 0 in this module, explain that it means no objects in this activity.
- If you would prefer, the student can stomp a foot whenever he/she finds a number. This option will allow the student to keep his/her fingers on the line of braille.
- If you are using hard copy braille, the student may also underline or circle the answer with a grease marker or crayon. Placing a small sticker on top of the answer is another option.
- Using the braillewriter for some of the writing activities is encouraged as it facilitates the development of motor memory.
- 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
- Index cards
- Unifix cubes (or other cubes that can be snapped together)
- Assortment of small objects
- Empty container
- 6 bowls

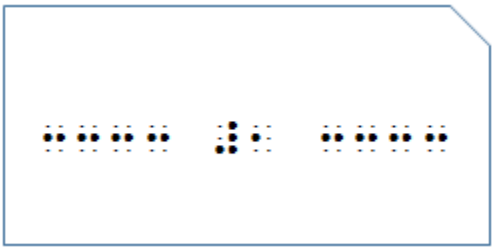
Optional materials for follow-up activities or adaptation of activities:

- Scented stickers, Wikki sticks, buttons, and/or textured paper
- Sorting tray
- Timer
- Popsicle sticks, straws, sticks, stick pretzel, etc. when practicing tally marks.

Explanation of activities embedded into module:

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

the Pre-Kindergarten curriculum, they can be used instead of creating new flash cards.



The flash cards will be used to practice reading numbers at first. Give the student one number card at a time. Make sure that it is oriented with the cut out corner at the upper right.

2) In some of the activities, your student will listen carefully and then write the numbers that he/she hears. These activities can be completed using the Accessible Equation Editor and/or a braillewriter and braille paper.

   Begin each time by asking the student to listen carefully as you read numbers. Afterwards he/she will write the number(s) in braille. Remind the student to space one time between the numbers and check his/her work. An answer key has been provided for these activities in the document entitled "B3 Module 1_Answer Key for Writing Activities_K".

   If your student is using a refreshable braille display for this activity, explain about the additional keys on the far right and far left. If your student is using a QWERTY keyboard with the Accessible Equation Editor, it may be helpful to use tactile dots on the keys used for dot 1 and dot 4.

3) The student will create sets of objects to match numbers from 0-5. The student will need 6 bowls, number cards from 0-5, and an assortment of small objects. Before beginning the activity, explain that 0 means no objects in this activity. Also explain that when he/she draws the number 0, he/she will not place any objects in the bowl. It will remain empty.

   This activity can easily be completed with the student and one of his/her friends (or you, if no other students are present). Begin the activity by having the student shuffle the number cards. Have the

student draw a number card and place that many objects in the bowl. Continue the same process until all of the number cards have been used.

Afterwards have the student arrange the bowls in a straight line and shuffle the number cards again. Then have the student place each number card in front of the bowl that contains that many objects. If needed, remind the student to place the number card 0 in front of the bowl that is empty.

4) In three of the activities, the student will count the number of tally marks on several lines of braille. He/she will write the number of tally marks on each line using the Accessible Equation Editor and/or his/her braillewriter. Remind the student to space one time between the numbers and check his/her work. An answer key has been provided for these activities in the document entitled "B3 Module 1_Answer Key for Writing Activities_K".

5) In one of these activities, your student will represent a number from 1-5 by making a set of tally marks. The student will need a braillewriter, braille paper, and flash cards for numbers 1-5. Have the student begin by shuffling the flash cards and then drawing a flash card. He/she will read the number on the flashcard and then braille that many tally marks before pressing the line spacing key twice. If you would like, the student and a friend (or you, if no other students are present) can take turns drawing cards and brailling that many tally marks.

   Later in the module, the student will represent a number from 6-10 and then 1-10 by making a set of tally marks. If you would like, students can use popsicle sticks, straws, stick pretzels etc. when practicing tally marks.

6) For another activity, the student will need flash cards from 1-10 and Unifix cubes or other cubes that can be snapped together. If you do not have the Unifix or snap cubes, you can also use MegaBlocks, Legos, or teddy bear manipulatives designed for young students.

   The student will draw a card and then read the number. Afterwards he/she will build an object using that number of Unifix cubes or other cubes that can be snapped together. This activity can easily be

completed with the student and one of his/her friends (or you, if no other students are present). The students should take turns drawing a flash card and building an object!

7) The game BANG will be played again in this review module. Your student will need a braillewriter, notecards cut into halves, and an empty container. First, have the student braille each number from 0-10 three times on different notecards that have been cut into halves. Second, braille the word BANG on several notecards. Third, have the student feel the word BANG and ask him/her what he/she noticed about the word.

   Fourth, have the student shuffle the cards and place them into the empty container. If you would like, the student can "decorate" the BANG container with foam 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.

   In order to save time, you may elect to use number flash cards you have already created instead of having the student create new number flash cards. The length of time you play and ratio of BANG cards to flash cards can be altered.

   Instructions for playing BANG:

   - You will need 2 or more players for this game. Take turns reaching into the container and pulling out a flash card. If you read the number correctly, you get to keep the card. If you do not read the number correctly, the card goes back into the container.

   - Continue taking turns. If you pull out a BANG card, you must put your whole pile of cards back into the container!

   - At the end of 10 minutes, whoever has the most cards is the winner!

8) The follow-up activity is a new game called FEED THE MONSTER. Your student will need a braillewriter, notecards cut into halves, braille paper, a sorting tray, a timer, and an empty container. First, have the student braille each number from 0-10 three times on different

notecards so there is a single number on each card for a total of 33 cards. Second, have the student decorate the empty container that will be the "monster". If you would like, the student is welcome to name the monster. He/she can also "decorate" the monster with scented stickers, Wikki sticks, buttons, or textured paper. Next have the student shuffle the cards.

Based on the child's preference, he/she can feed a dog, cat, or other animal instead of a monster.

Instructions for playing FEED THE MONSTER:

- You will need 2 or more players for this game. Shuffle the deck of cards and pass out an equal number of cards to each player. You can pass out all of the cards or some of the cards based on whether you want to work on all of the numbers or select numbers based on need for additional practice.

- Begin by telling the student that you will call out a number the monster is hungry for, and the students will race to feed the number card to the monster before the timer goes off. The monster can only eat the first correct number it is given. It is then ready for the next number. You can set the timer or the student can set the timer. This would provide an opportunity to show a student how to use a variety of timers, including timer apps, braille timers, etc.

- As the student reads each number card, encourage him/her to use a sorting tray to separate which cards have been read and which cards have not been read. As soon as the student finds the correct number, he or she should try to be the first one to feed the monster. All of the students are reading their own number cards at the same time. The students are not taking turns.

- Every time your student is the first to feed the monster, have him/her write a tally mark on a piece of braille paper to help him/her keep up with how many times he/she has fed the monster. Remind the student to write the tally marks in sets of five and leave a space between the sets.

- At the end of the game, whoever has fed the monster the most cards is the winner! A game could last 10 minutes or how long it takes for the winner to feed the monster a certain number of times.

This game can easily be played with students who read print or braille. If one of the players reads print, add print to each of the number flash cards. The length of time you play and the length of time to locate numbers is up to you.

Materials Commercially Available:

Materials that could be used from the American Printing House for the Blind (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.sciencekids.co.nz/sciencefacts/vehicles/bicycles.html