

Pre-Kindergarten Module 6

Numerals 0 and 10

Teacher Guide

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 1-9
- Ability to write the numerals 1-9
- Ability to put the numbers 1-9 in order

Symbols and Concepts

- Counting
- Numeric indicator
- Numerals 0-10
- Concepts of "before" and "after"
- Numerical order

Objectives

The student will be able to:

- Tactually identify the numerals from 0-10
- Use the braillewriter to write the numerals 0-10
- Represent a number ranging from 0-10 by producing a set of objects with concrete materials and Nemeth numerals
- Use number cards in order and then determine what number comes before or after a specific number from 0-10
- Place numbers 0-10 in order

Other ECC Skills Addressed

Note: ECC stands for Expanded Core Curriculum.

- Listening skills
- Concept development
- Following directions
- Tactual discrimination
- Left-to-right tracking

- Taking turns
- Hand positioning
- Light touch (as opposed to scrubbing)

Required Materials

- Braillewriter
- Braille paper
- Student braille document
- Two swing cells and pegs
- Index cards
- Six bowls
- Assortment of small objects
- Timer
- Sorting tray with dividers
- Brightly colored construction paper
- Unifix cubes (or other cubes that can be snapped together)
- Bin or bucket
- Glue stick or glue
- Textured paper/material
- Book made of poster board or cardboard
- Hook and loop sticky-back strips and circles of Velcro so the circles will connect to the strips
- Outline/pattern of train cars available within the curriculum

Optional Materials

- Scented stickers, Wikki Stix®, buttons, or textured paper
- Two half dozen muffin tins and 12 small balls
- Nonslip surface such as rubber shelf liner
- Hard copy of Nemeth numerals 0-10 in order
- Writing answers braille document

Teaching Tips

- Before opening any BRF files in Duxbury,
 - Go into the Global menu.
 - Select "**Formatted Braille Importer.**"
 - Select the box for "**Read formatted braille without interpretation**" at the top of the window. This will ensure that nothing is changed when opening the BRF files.
- All braille files in the curriculum are formatted with a 32-cell width by default.

- This module should be completed across multiple sessions.
- Note that the beginning tracking activities are emphasizing the shape of the numeral.
- It may also help to place the flashcards 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 introduce the numeral 0, explain that it means no objects in this activity.
- If you are using hard copy braille, the student can also do the following:
 - Stomp a foot
 - Underline or circle the number with a grease marker or crayon
 - Place a small sticker on top of the number
- 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.
- If you do not have two swing cells, use two half dozen muffin tins with tennis balls for an easy way for the child to “build” the Nemeth numerals. Another variation would be to use two half dozen egg cartons or a dozen egg carton cut in half with plastic eggs or golf balls.
- 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.
- We maintain a list of [commercially available materials](#) that can be used to supplement instruction.

Activities

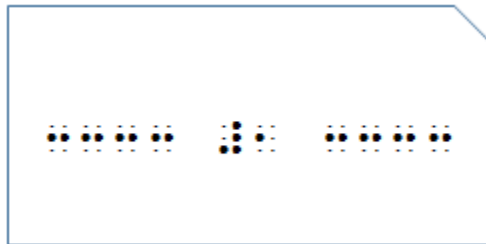
Activity 1

- The student will create sets of objects to match numerals 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 they draw the numeral 0, they will not place any objects in the bowl. It will remain empty.
- This activity can easily be completed with the student and one of their 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 first bowl. Then set the card aside, and continue the same process until all of the number cards and bowls 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.

Activity 2

- Create flashcards with the index cards. Cut out the upper right corner for easy identification of orientation. Make five flashcards for each numeral 0-10. Use lines of dots 2-5 before and after the numeral. For example, for numeral 1, type dots 2-5, dots 2-5, dots 2-5, dots 2-5, space, dots 3-4-5-6, dot 2, space, dots 2-5, dots 2-5, dots 2-5, dots 2-5.



- The flashcards will be used to practice reading numerals 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. Some of the flashcards will also be used to put the numbers in order in this module. For this activity, the student will use the numerals 0-9.

Activity 3

All information is provided in the teacher script.

Activity 4

All information is provided in the teacher script.

Activity 5

- For this activity, the student will need flashcards from 0-10 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 preschoolers.

- The student will draw a card and then read the numeral. Afterwards they will build a train 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 their friends (or you, if no other students are present). The students should take turns drawing a flashcard and building a train.

Activity 6

All information is provided in the teacher script.

Activity 7

Activity 7 is the same as Activity 2. However, the student will use the numerals 0-10.

Activity 8

- 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 ten objects that remind them of a train.
- The student will write 10 in Nemeth. Then, the student will glue ten objects onto the paper.

Activity 9

All information is provided in the teacher script.

Activity 10

- You will need flashcards with numerals written from 0 to 10 on them. Then have the student shuffle the flashcards. Afterwards have the student place the numbers in order from 0 to 10.
- If needed, provide the student with a hard copy of numbers in order to use as a model. It may also help to place the flashcards on a nonslip surface such as rubber shelf liner so they will not move as the student reads the cards. You may also use a strip of sticky back Velcro on the back side of each flashcard and then arrange the flashcards on a long strip of Velcro on the student's desk. You and/or the student can also paste the flashcards in place on a large piece of construction paper when they are correctly laid out.

Activity 11

- Continue to make a number train.
- The student will need: railroad cars with numerals 1-9 from the last module, brightly colored construction paper or braille paper cut into train car shapes, glue stick, and braille numerals 0 and 10 on small cards. First, have the student find the numeral 0 and glue it onto a railroad car. Then, have the student find the numeral 10 and glue it onto another railroad car. Then have the student put the railroad cars in order from 0 to 10. If you would like, the student can “decorate” the railroad cars with scented stickers, Wikki Stix®, 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 the student reads the numbers. 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.

Activity 12

- Create a counting book from 1 to 10 by using objects that can be easily counted like one smooth button, two birthday candles, three foam triangles, four keys, etc. The student will need: book made of poster board, a variety of small objects, glue stick, sticky-back strips of Velcro, sticky-back circles of Velcro, and braille numerals 1 through 10 on small cards. If preferred, you can use a book made of cardboard from a craft store instead of poster board. (We are deliberately starting at 1 since the counting numbers start at 1. You are welcome to add 0 should you choose to make a number book instead.)
- It may help to place the book on a nonslip surface such as rubber shelf liner so it will not move as the student is reading. It may also help to use bowls or a sorting tray to keep the assortment of small objects organized.
- Velcro is recommended so that the student can take the objects out of the book easily when counting. Removable objects can also be changed by the child to easily create a different counting book. If preferred, you can use hot glue instead of Velcro to attach the objects.

- More information about making counting books is available on the Paths to Literacy website (www.pathstoliteracy.org) and in *Beginning with Braille: Firsthand Experiences with a Balanced Approach to Literacy* by Anna Swenson from AFB Press (<https://www.aph.org/product-category/aph-press/>). The student will begin by finding the numeral 1 and attaching it onto the upper left corner of the first page of the book. Afterwards, they will find the numeral 2 and glue it onto the upper left corner of the next page. Continue to find the numerals in order and then glue each numeral onto the upper left corner of a different page. Once the student has finished locating and gluing the numerals onto the pages, attach a Velcro strip horizontally in the middle of each page. For the pages with numerals 6-10 on them, attach a second Velcro strip slightly below the first Velcro strip.
- Next decide which object will be used with the numeral 1 and then glue a Velcro circle onto the back of the item. Then attach the item with the Velcro circle onto the long Velcro strip on the page with the numeral 1. Complete the same process for all of the numerals.
- Then have fun reading and counting the objects in your counting book.

Fun Facts

Yorke, J. (1998). *The big book of trains*. DK Publishing.