

Second Grade Module 1

Addition to 100 and the Carried Number Indicator

Teacher Guide

Prerequisite Skills

- Ability to tactually identify the numbers 0-100
- Ability to tactually identify the plus sign and separation line
- Ability to write the numbers 0-100
- Ability to write the plus sign and separation line
- Ability to read the numbering of math problems, including the punctuation indicator and period
- Ability to represent addition within 20

Symbols and Concepts

- Carried number indicator and carried numbers (commonly called renamed numbers)
- Problems and equations in a vertical format
- Fluently add within 100
- Relate counting to addition
- Use manipulatives and strategies based on place value to add within 100
- Add within 100 for problems in a vertical format

Objectives

The student will be able to:

- Read unnumbered and numbered problems involving addition in a vertical format that include numbers 0-99, plus sign, and a separation line
- Fluently add within 100, including equations in a vertical format
- Add within 100, using the count on strategy
- Add up to four two-digit numbers using strategies based on place value and/or manipulatives
- Write the answer to an addition problem in a vertical format
- Use the braillewriter to write problems and equations involving addition within 100 in a vertical format

Other ECC Skills Addressed

Note: ECC stands for Expanded Core Curriculum.

- Listening skills
- Concept development
- Following directions
- Organization
- Tactual discrimination
- Left-to-right tracking
- Top-to-bottom tracking
- Spatial alignment
- Hand positioning
- Light touch (as opposed to scrubbing)
- Scan and interpret tactile graphics used in math
- Recreation and leisure

Required Materials

- Braillewriter
- Braille paper
- Index cards
- Braille documents available within the curriculum
 - Student braille document
 - Flashcards
 - Counting to 120 Chart (choose 1 of 2 versions)
 - Tic-Tac-Toe game cards
- Work and/or sorting trays
- Five each of two tactually different markers

Optional Materials

- Nonslip surface such as rubber shelf liner
- Unifix cubes, Digi-Blocks, or base ten unit blocks
- Baskets, containers, or bowls
- Braille documents available within the curriculum
 - Writing answers braille document
 - Place Value Chart 1
- Magnetic counters on a cookie sheet or magnetic board
- Pushpins on a cork board
- Small stickers
- Wikki Stix®

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 unless the file name has a 40 indicating the file has been formatted with a 40-cell width. In this module, there are two 40-cell width files: 120-Chart-Double-40 and 120-Chart-Single-40.
- This module should be completed across multiple sessions.
- It is highly recommended that this module be completed with hard copy braille and a braillewriter instead of a refreshable braille display.
- It may 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.
- If needed, remind the student to move their fingers across the braille and check their work during writing activities.
- It may be helpful to point out that braille page numbers are placed at the right margin on the last line. If needed, also point out that braille page numbers are transcribed in Unified English Braille, not Nemeth Code.
- As needed, manipulatives such as Unifix cubes, Digi-Blocks, or base ten blocks may be used.
- It is very important to use the correct finger on each key when learning new Nemeth symbols. This will help the student continue to be accurate in their writing.
- It may be helpful to provide assistance in lining up the embossing head with the addends.
- Encourage the student to verbalize the process they use when solving problems.
- We maintain a list of [commercially available materials](#) that can be used to supplement instruction.

Activities

Activity 1

- Students will use flashcards to practice reading addition problems in vertical alignment and determining the sum.

- You can either create flashcards with the problems below using index cards or emboss the flashcards in the braille document entitled "G2-M1-Flashcards.brf". Answers are provided in parentheses to assist you in placing the answers on the back.

[47 plus 1 equals 48, 58 plus 3 equals 61, and 90 plus 2 equals 92]

$$\begin{array}{r} 47 \\ +1 \\ \hline (48) \end{array} \quad \begin{array}{r} 58 \\ +3 \\ \hline (61) \end{array} \quad \begin{array}{r} 90 \\ +2 \\ \hline (92) \end{array}$$

[61 plus 0 equals 61, 39 plus 1 equals 40, and 85 plus 5 equals 90]

$$\begin{array}{r} 61 \\ +0 \\ \hline (61) \end{array} \quad \begin{array}{r} 39 \\ +1 \\ \hline (40) \end{array} \quad \begin{array}{r} 85 \\ +5 \\ \hline (90) \end{array}$$

[15 plus 3 equals 18, 75 plus 4 equals 79, and 38 plus 2 equals 40]

$$\begin{array}{r} 15 \\ +3 \\ \hline (18) \end{array} \quad \begin{array}{r} 75 \\ +4 \\ \hline (79) \end{array} \quad \begin{array}{r} 38 \\ +2 \\ \hline (40) \end{array}$$

[99 plus 0 equals 99, 32 plus 1 equals 33, and 24 plus 5 equals 29]

$$\begin{array}{r} 99 \\ +0 \\ \hline (99) \end{array} \quad \begin{array}{r} 32 \\ +1 \\ \hline (33) \end{array} \quad \begin{array}{r} 24 \\ +5 \\ \hline (29) \end{array}$$

[34 plus 3 equals 37, 66 plus 4 equals 70, and 96 plus 0 equals 96]

$$\begin{array}{r} 34 \\ +3 \\ \hline (37) \end{array} \quad \begin{array}{r} 66 \\ +4 \\ \hline (70) \end{array} \quad \begin{array}{r} 96 \\ +0 \\ \hline (96) \end{array}$$

[72 plus 6 equals 78, 67 plus 2 equals 69, and 38 plus 1 equals 39]

$$\begin{array}{r} 72 \\ +6 \\ \hline (78) \end{array} \quad \begin{array}{r} 67 \\ +2 \\ \hline (69) \end{array} \quad \begin{array}{r} 38 \\ +1 \\ \hline (39) \end{array}$$

- Cut out the upper right corner of each flashcard for easy identification of orientation. If you would like for the student to be able to use the flashcards independently, place the answers on the back of each flashcard using the Feel 'n Peel Stickers: Nemeth Braille-Print Numbers from American Printing House for the Blind.

- Begin by shuffling the flashcards, and then have the student select a card. After the child reads each problem in vertical alignment and tells you the answer, have them use a sorting tray to separate which cards they have read and which cards they have not read.

Activity 2

All information is provided in the teacher script.

Activity 3

All information is provided in the teacher script.

Activity 4

- The student will listen carefully and then write the braille symbols, problems, or equations that they hear. It is highly recommended that these activities be completed using a braillewriter and braille paper since spatially aligned problems require more than one line in braille.
- Begin each time by asking the student to listen carefully as you read the braille symbols, problems, or equations. Afterwards they will write what they hear in braille. Remind the student to check their work. An answer key has been provided for these activities in the braille document entitled "G2-M1-Writing-Answers.brf".

Activity 5

All information is provided in the teacher script.

Activity 6

- This activity is a game called Tic-Tac-Toe. You will need 2 players for this game. It can easily be played with another student (or you if no other students are present) who reads print or braille. If the other player reads print, add print to each of the game cards.
- Materials for the game include: a Tic-Tac-Toe game card and two different types of markers that are tactually distinctive such as small pieces of Wikki Stix® or stickers. If you use Wikki Stix® pieces, roll them into a ball with your hand so that they will stick to the paper more easily.
- The first player to get 3 markers in a row wins the game. Each time a player determines the sum for a problem, they will earn the right to place a marker on the problem. Once a player has 3 markers horizontally in a row, vertically in a column, or going diagonally, they should call out Tic-Tac-Toe.

- Four different game cards are available in braille in the curriculum. If preferred, you can create your own game cards.
- Instructions for playing Tic-Tac-Toe
 - Begin by encouraging the student to use their hands to explore the Tic-Tac-Toe game card. Point out that they will find the title centered on the first line. Afterwards there will be 3 rows with 3 problems on each row.
 - Decide which player who will go first. Then the first player will select one of the nine addition problems to solve. If the first player correctly determines the sum, then he or she can place one of their markers on top of the problem.
 - Afterwards, the second player will select one of the addition problems to solve. If the second player correctly determines the sum, then he or she can place one of their markers on top of the problem.
 - Continue alternating turns until a winner gets 3 markers in a row and calls out Tic-Tac-Toe.

Fun Facts

Interesting *Facts about Cars*. (n.d.). Just fun facts. Retrieved June 4, 2020, from <http://justfunfacts.com/interesting-facts-about-cars/>