

## **Second Grade Module 2**

### **Subtraction to 100 and the**

### **Cancellation Indicators**

### **Teacher Guide**

#### **Prerequisite Skills**

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

#### **Symbols and Concepts**

- Cancellation indicators
- Problems and equations in a vertical format
- Fluently subtract within 100
- Relate counting backwards to subtract
- Use manipulatives and strategies based on place value to subtract within 100
- Subtract within 100 with problems in a vertical format

#### **Objectives**

The student will be able to:

- Read problems involving subtraction in a vertical format that include numbers 0-99, a minus sign, and a separation line
- Fluently subtract within 100, including with equations in a vertical format
- Subtract within 100, using the count backwards strategy
- Write the answer to a subtraction problem in a vertical format
- Use the brailewriter to write problems and equations involving subtraction 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
- Braille documents available within the curriculum
  - Student braille document
  - Flashcards
  - Counting to 120 Chart (choose 1 of 2 versions)
  - Place Value Chart 1
- Base ten units and rods in different containers, baskets, or bowls
- Timer
- A single die

## Optional Materials

- Nonslip surface such as rubber shelf liner
- Unifix cubes, Digi-Blocks, or base ten unit blocks
- Writing answers braille document
- Work and/or sorting trays

## 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 brailewriter 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 subtraction 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-M2-Flashcards.brf". Answers are provided in parentheses to assist you in placing the answers on the back.

[61 minus 0 equals 61, 39 minus 1 equals 38, and 85 minus 5 equals 80]

$$\begin{array}{r} 61 \\ - 0 \\ \hline (61) \end{array} \quad \begin{array}{r} 39 \\ - 1 \\ \hline (38) \end{array} \quad \begin{array}{r} 85 \\ - 5 \\ \hline (80) \end{array}$$

[47 minus 4 equals 43, 50 minus 3 equals 47, and 86 minus 2 equals 84]

$$\begin{array}{r} 47 \\ - 4 \\ \hline (43) \end{array} \quad \begin{array}{r} 50 \\ - 3 \\ \hline (47) \end{array} \quad \begin{array}{r} 86 \\ - 2 \\ \hline (84) \end{array}$$

[72 minus 6 equals 66, 67 minus 2 equals 65, and 38 minus 5 equals 33]

$$\begin{array}{r} 72 \\ - 6 \\ \hline (66) \end{array} \quad \begin{array}{r} 67 \\ - 2 \\ \hline (65) \end{array} \quad \begin{array}{r} 38 \\ - 5 \\ \hline (33) \end{array}$$

[15 minus 3 equals 12, 75 minus 4 equals 71, and 38 minus 2 equals 36]

$$\begin{array}{r} 15 \\ - 3 \\ \hline (12) \end{array} \quad \begin{array}{r} 75 \\ - 4 \\ \hline (71) \end{array} \quad \begin{array}{r} 38 \\ - 2 \\ \hline (36) \end{array}$$

[99 minus 0 equals 99, 32 minus 1 equals 31, and 24 minus 5 equals 19]

$$\begin{array}{r} 99 \\ - 0 \\ \hline (99) \end{array} \quad \begin{array}{r} 32 \\ - 1 \\ \hline (31) \end{array} \quad \begin{array}{r} 24 \\ - 5 \\ \hline (19) \end{array}$$

[34 minus 3 equals 31, 66 minus 4 equals 62, and 96 minus 1 equals 95]

$$\begin{array}{r} 34 \\ - 3 \\ \hline (31) \end{array} \quad \begin{array}{r} 66 \\ - 4 \\ \hline (62) \end{array} \quad \begin{array}{r} 96 \\ - 1 \\ \hline (95) \end{array}$$

- 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**

- This activity is a new game. You will need 2 or more players. 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 timer, a braillewriter for each player, and braille paper. As needed, base ten blocks or Digi-Blocks can be used. If one of the players is a print reader, they can use paper and pencil instead of a braillewriter.
- First, decide how long the game will last and set a timer. Second, have the students write the number 99 at the top of their page. Third, decide which player will roll the die first.
- As each player rolls the die, they can either take the number as a one or a ten. For example, if the player rolls a 3, they can take it as a 3 or a 30. Students subtract their numbers until a person either hits 10 or the timer rings.
- The first number rolled is subtracted from 99, using spatial format. So if the player decides to take it as a 30, the problem would be 99 minus 30 equals 69. The next time the player rolls the die, they would start with the number 69.

$$\begin{array}{r} 99 \\ -30 \\ \hline 69 \end{array}$$

- On the other hand, if the player decides to take it as a 3, the problem would be 99 minus 3 equals 96. The next time the player rolls the die, they would start with the number 96.

$$\begin{array}{r} 99 \\ - 3 \\ \hline 96 \end{array}$$

- The goal is to reach 10 or be closer to 10 than your opponents when the timer rings, so choose your number carefully each time. If your number is less than 10, you automatically lose. Good luck, Nemeth superstar.

## Fun Facts

Easton, A. H. (n.d.). Bus. In *Britannica.com encyclopedia*. Retrieved June 30, 2021, from <https://www.britannica.com/technology/bus-vehicle>

*Facts about buses*. (n.d.). Science for kids club. Retrieved June 4, 2020, from <http://www.scienceforkidsclub.com/buses.html/>

Kiddle. (2021). Kids encyclopedia facts: Bus facts for kids. In *Kiddle encyclopedia*. Retrieved June 30, 2021, from <https://kids.kiddle.co/Bus>