

# Pre-Kindergarten – 1<sup>st</sup> Grade Students: Nemeth Code within UEB Contexts and Strategies for Supporting the Student in Building Math Skills

## Lesson 1: Numbers and Linear Problems



University of South Carolina Upstate, Spring 2020

# Lesson 1 Objectives

Participants will be able to:

1. Read and write the following Nemeth symbols

- Numbers 0 to 120
- Mathematical comma (7, 8, 9)
- Punctuation indicator
- Plus and minus signs (+, -)
- Equals sign, greater than sign, less than sign (=, >, <)
- General omission symbol

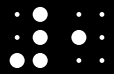
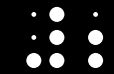

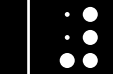
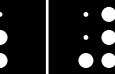

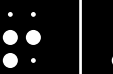
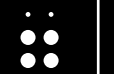
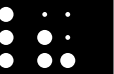
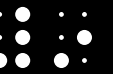
2. Number math problems

3. Read and write linear problems

# Nemeth Code within UEB Contexts

- As of January 4, 2016 the United States now uses Nemeth Code within UEB Contexts.
- Resources published before 2016 are in Nemeth Code and surrounding text is in EBAE, not UEB.
- The 2018 document *Guidance for Transcription Using the Nemeth Code within UEB Contexts* explains how to prepare braille materials.  
<http://brailleauthority.org/ueb.html#nemeth>

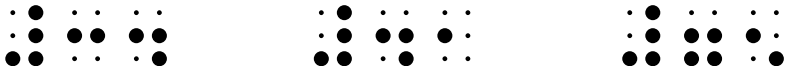
# Numbers from 0 to 120


|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| <b>1</b>  | <b>2</b>  | <b>3</b>  | <b>4</b>  | <b>5</b>  | <b>6</b>  | <b>7</b>  | <b>8</b>  | <b>9</b>  | <b>0</b>  |
|  |  |  |  |  |  |  |  |  |  |


- Yes, the numbers ARE in the lower part of the cell in Nemeth Code. Do you know why?
- To write a number from 0 to 120, you begin with the numeric indicator :: (dots 3-4-5-6) and then immediately write the actual number.
- To write the number 12, you would write :::: and read it as twelve.


# Activity 1A


Interline the following numbers.

1. 

2. 

3. 

4. 

5. 

# Activity 1A: Answer Key

|    |        |        |          |
|----|--------|--------|----------|
|    | 34     | 41     | 75       |
| 1. | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨   |
|    | 97     | 20     | 108      |
| 2. | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨⠠⠨ |
|    | 95     | 44     | 116      |
| 3. | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨⠠⠨ |
|    | 31     | 12     | 63       |
| 4. | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨   |
|    | 85     | 28     | 109      |
| 5. | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨ | ⠠⠨⠠⠨⠠⠨⠠⠨ |

# Activity 1B

Braille these numbers as shown:

1 2 3 4 5

6 7 8 9 10

100 96

85 114

# Activity 1B: Answer Key

1 2 3 4 5

⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠

6 7 8 9 10

⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠⠠

100 96

⠠⠠⠠⠠ ⠠⠠⠠⠠

85 114

⠠⠠⠠⠠ ⠠⠠⠠⠠⠠



# Mathematical Comma

If you write several numbers in a row separated by a comma, you **must** use the mathematical comma ∷ (dot 6) immediately after each number followed by a space.



The UEB comma would be confused with the number 1.

7, 8, 9 would be written as:

∷ ∷ ∷ ∷ ∷ ∷ ∷ ∷ ∷

# Activity 1C

Braille the following as shown below:

1, 2, 3, 4, 5

6, 7, 8, 9, 10

95, 96, 97

100, 101, 102

# Activity 1C: Answer Key

1, 2, 3, 4, 5

⠠⠠⠠⠠⠠

6, 7, 8, 9, 10

⠠⠠⠠⠠⠠⠠

95, 96, 97

⠠⠠⠠⠠⠠⠠⠠

100, 101, 102

⠠⠠⠠⠠⠠⠠⠠⠠

# The Punctuation Indicator

Use the punctuation indicator ∴ (dots 4-5-6) to avoid confusion between marks of punctuation and numbers.

1. 37

∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴

7. 45

∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴

35. 6, 8, 10

∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴



# General Omission Symbol

The general omission symbol is represented by ⋮ (dots 1-2-3-4-5-6) and is used when a question mark or blank space in print shows a missing number.

98 ? 100 ? 102

⋮⋮⋮ ⋮ ⋮⋮⋮⋮ ⋮ ⋮⋮⋮⋮

14, 15, ?, 17

⋮⋮⋮⋮ ⋮⋮⋮⋮ ⋮⋮ ⋮⋮⋮

# Signs of Operation and Signs of Comparison

- Signs of Operation

- ∴ is the addition sign (+) (dots 3-4-6)

- ∴ is the minus sign (−) (dots 3-6)

- Signs of Comparison

- ∴∴ is the equal sign (=) (dots 4-6, dots 1-3)

- ∴∴ is the greater than sign (>) (dots 4-6, dot 2)

- ∴∴ is the less than sign (<) (dot 5, dots 1-3)







# Activity 1D: Answer Key

$$1. 25 + 48 < 75$$

$$2. 36 - ? = 28$$

$$3. 52 - ? > 35$$

$$4. ? - 71 = 47$$

$$5. 87 - 37 > 40$$

$$6. 98 - 22 = ?$$

$$7. 17 + 59 < 98$$

$$8. 33 + 49 = 82$$

$$3. 25 + 48 < 75$$

$$5. 36 - ? = 28$$

$$7. 52 - ? > 35$$

$$10. ? - 71 = 47$$

$$14. 87 - 37 > 40$$

$$26. 98 - 22 = ?$$

$$32. 17 + 59 < 98$$

$$35. 33 + 49 = 82$$