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

Lesson 4: Formatting Materials for Students in the Early Grades

University of South Carolina Upstate, Spring 2020

Lesson 4 Objectives

Participants will be able to:

1. Locate and use formatting resources
2. Format the following:
   - Centered headings
   - Braille page numbers
   - Directions
   - Problems
3. Make decisions on when to use Nemeth numbers and manipulatives

Formatting Materials for Young Students

Predictable materials allow students to:

- Develop efficiency

- Focus on content

- Quickly scan the page with their hands and learn what is included in the document.

Resources to Use in Formatting Materials for Young Students

- *Braille Formats: Principles of Print-to-Braille Transcription, 2016* referred to as "Braille Formats."
  - http://brailleauthority.org/formats/formats2016.html
  - Available from the Braille Authority of North America (BANA)
  - *Braille Formats* is for transcribers, but TSVIs need to understand many of the concepts explained.
- As of March 2020, BANA has approved new guidelines for transcribing early educational materials.

Line Spacing

- Double-space materials for young learners.

Exceptions, single space:

  - Puzzles

  - Spatially aligned problems

  - Tables

  - Titles of tactile graphics

Print Worksheet Example

Title → **Addition Practice**
Worksheet 1

Directions → Add.

3	1	2	0
+ 2	+ 0	+ 2	+ 3

Centered Headings

- Center the title of a worksheet.

- Place the title on the first line of the page, and leave two blank lines after the heading.

- Divide long headings across multiple lines.

- Follow print capitalization when brailling headings.

- Changes in typeform that are just "pretty" are not needed in braille.

How to Center a Heading

- Begin by counting the number of cells needed to transcribe the title in braille.
- Count:
  - Letters
  - Contractions
  - Spaces
  - Punctuation
  - Indicators (e.g., capital indicator)
- Subtract the number of cells needed for the title from the number of cells in a line (usually either 32 or 40).
- Divide the difference by 2.

Example of a Centered Heading (continued)

Addition Practice
Worksheet 1

Add.

```
    3        |        2        0
  + 2      + 0      + 2      + 3
  ___      ___      ___      ___
```

- The title is centered.
- Two blank lines follow the title.
- Print capitalization is followed.

40 − 17 = 23
23 ÷ 2 = 11.5
Begin in cell 12.

Activity 4A

Decide if each statement is true or false.

1. The title of a worksheet always begins in cell 5.
2. Long titles can be divided across two or even three lines when necessary.
3. Follow print capitalization when brailling headings for a kindergarten student.
4. Most materials for students in first grade are triple-spaced.

Activity 4A: Answer Key

1. False – The title of a worksheet is centered.
2. True – Long titles can be divided across two or even three lines when necessary.
3. True – Follow print capitalization when brailling headings for a kindergarten student.
4. False – Most materials for students in first grade are double-spaced.

Directions Preceding Unnumbered Problems

Addition Practice
Worksheet 1

Add.

$$3 \quad 1 \quad 2 \quad 0$$
$$+2 \quad +0 \quad +2 \quad +3$$

- When directions precede unnumbered problems, directions begin in cell 3 with runover lines beginning in cell 1.
- Since the problems are spatially aligned, there is a blank line after the directions.

3-1

Directions Preceding Numbered Problems

**Comparing Numbers**

Write >, <, or = in the blank.

1. 79 _____ 57

2. 15 _____ 21

3. 32 _____ 36

4. 90 _____ 13

- When directions precede numbered problems, they begin in cell 5 with runover lines beginning in cell 3.
- There are two blank lines between the title and directions.
- There is only one blank line after the directions.

5-3

Numbered Problems with No Subdivisions

Begin in cell 1 with runover in cell 3.

1. How many tens are in 45?

⠼⠁⠲ ⠓⠪⠺ ⠍⠁⠝⠽ ⠞⠢⠎ ⠜ ⠔ ⠼⠙⠑⠢

2. What is the sum of 2, 5, 10, and 15?

⠼⠃⠲ ⠱⠁⠞ ⠊⠎ ⠮ ⠎⠥⠍ ⠷ ⠼⠃⠂ ⠼⠑⠂ ⠼⠁⠚⠂ ⠯

⠼⠁⠑⠢

3. Which is more, 9 − 6 or 11 − 5?

⠼⠉⠲ ⠺� ⠊⠎ ⠍⠕⠗⠑⠂ ⠼⠊⠤⠋ ⠕⠗ ⠼⠁⠁⠤⠑⠢

Numbered Problem with Subdivisions

1. 7 + _____ = 12
   a. 6
   b. 7
   c. 5
   d. 9

- Begin problem in cell 1 with runover in cell 5.

- Answer choices begin in cell 3 with runover in cell 5.
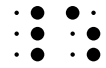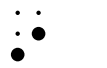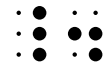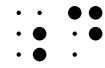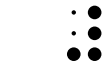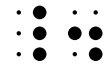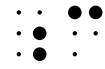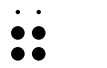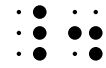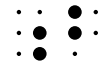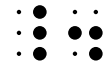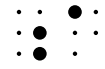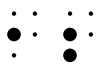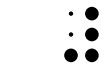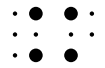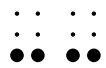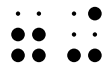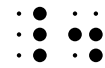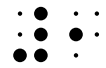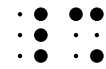
Example of a Numbered Problem with Subdivisions

4. My cousins made cupcakes. Maria made 6 cupcakes, and Jorge made 3. Which equation shows how many cupcakes they made altogether?

a. $6+3 = 8$

b. $3+8 = 11$

c. $6+3 = 10$

d. $6+3 = 9$

# Example of a Numbered Problem with Subdivisions (continued)

- I would double space this problem for a young student.
- Problem begin in cell 1 with runover in cell 5.
- Answer choices begin in cell 3 with runover in cell 5.

Page Numbering

- All page numbers are in UEB.

- You must leave 3 braille cells between the text on the line and the page number.

- The braille page number is placed at the end of the last line on each page.

- Braille page numbers are consecutive: 1, 2, 3, etc.

Example of Page Numbering

What Number Is Missing?

50 + 4 = _____

30 + 6 = _____

10 + 9 = _____

70 + 8 = _____

Activity 4B

Addition Fun

Fill in the missing number.

1. $1 + 5 = \underline{\quad}$

2. $1 + 7 = \underline{\quad}$

3. $2 + 4 = \underline{\quad}$

Write your answer. You may use your counting bears.

4. There are 3 girls and 4 boys in the bus. How many children are there altogether?

Activity 4B: Answer Key

⠰⠎⠃⠞⠗⠁⠉⠞⠬ ⠰⠋⠗⠁⠉⠎

⠰⠏⠁⠗⠞ � � � ⠋⠗⠁⠉⠞⠊⠕⠝⠎ �⠏

⠼⠃⠲⠴⠴ ⠼⠃⠲⠼⠴ ⠒⠼ ⠤⠤⠤⠤⠤

⠼⠃⠲⠴⠴ ⠼⠃⠲⠼⠴ ⠒⠼ ⠤⠤⠤⠤⠤

⠼⠃⠲⠴⠴ ⠼⠃⠲⠼⠴ ⠒⠼ ⠤⠤⠤⠤⠤ ⠼⠴

⠰⠎⠊⠍⠏⠇⠊⠋⠽ � ⠋⠗⠁⠉⠞⠊⠕⠝ ⠼⠃ ⠏⠗⠊⠕ ⠞⠕⠲

� ⠋⠊⠝⠁⠇ ⠁⠝⠎⠺⠑⠗⠲

⠼⠉⠲ ⠕⠝⠑ ⠼⠴ ⠦⠞ ⠺⠕⠗⠅⠎ ⠃ ⠦⠞ ⠊⠝⠞⠕ ⠴

⠦ ⠕⠝⠑⠤ ⠞⠺⠕ ⠼⠴ ⠞⠓ ⠼⠴ ⠼⠑ ⠺⠕⠗⠅⠎

⠼⠂

Special Considerations

- Teachers may elect to use Nemeth numerals throughout all math materials for young learners.

- When pre-kindergarten and kindergarten students are given pictures of objects to count, use manipulatives such as:
  - Counting bears
  - Base ten blocks
  - Digi-blocks

- Use simple tactile shapes (e.g. circles, squares) on worksheets.

Interlining

- Interline braille material by writing above the braille.
- Interlining above the braille, allows the student's hands to be on the braille and the adult to see the print.