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
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.”
  - 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

Addition Practice
Worksheet 1

Add:

\[
\begin{align*}
3 + 2 & = 5 \\
1 + 0 & = 1 \\
2 + 2 & = 4 \\
0 + 3 & = 3
\end{align*}
\]
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)

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

\[
\begin{array}{cccc}
3 & 1 & 2 & 0 \\
+ 2 & + 0 & + 2 & + 3 \\
\end{array}
\]

\[
40 - 17 = 23 \\
23 \div 2 = 11.5 \\
\text{Begin in cell 12.}
\]
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

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.
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.
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)

14. Amy, Carlos, and Maria made cupcakes. Amy made 8 cupcakes, and Jorge made 7. The equation to find the total number of cupcakes is:

\[ \text{Amy} + \text{Carlos} + \text{Maria} = \text{Total} \]

\[ 8 + 7 + \text{Maria} = \text{Total} \]

\[ 15 + \text{Maria} = \text{Total} \]

- 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. $1 + 5 = ___$
2. $1 + 7 = ___$
3. $2 + 4 = ___$

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

Write in the missing numbers and check your work.

Write or answer in your own way.

Try math facts.

The differences in girls and boys are

...
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.