An Introduction to Nemeth Code Symbols Used in Grades 2 to 5 and Strategies for Supporting Elementary Students in Building Math Skills

Lesson 4: Formatting Materials for Students in Grades 2-5

University of South Carolina Upstate, Summer 2020
Lesson 4 Objectives

Participants will be able to:

1. Locate and use formatting resources
2. Format the following:
   • Braille and print page numbers
   • Directions
   • Numbered problems
   • Tables
Predictable materials allow students of all ages to:

- Focus on content
- Quickly scan the page with their hands to get an overview of the page
- Quickly scan pages to locate a specific print page, heading, set of problems, etc.
- Access information and be efficient!
Resource to Use in Formatting Braille Materials

• *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 and paraprofessionals preparing braille materials need to understand many of the concepts explained in this codebook.
• Guidance for Transcription Using the Nemeth Code within UEB Contexts
  - [http://www.brailleauthority.org/mathscience/math-science.html](http://www.brailleauthority.org/mathscience/math-science.html)
  - Information about formatting on pages 15-21, includes example problems and a table.
Formatting Basics for Students in Grades 2-5

• Materials are single-spaced.

• BANA refers to titles as “centered headings.”

• Center the title of a worksheet on the first line of the page, and leave a blank line following it.

• Follow print for the sequence of problems, punctuation, and capitalization.

• Do not change the wording of directions or problems.
Print Worksheet Example

**Title**

**Mixed Review**

Solve each multiplication and division problem.

1. \(64 \div 8 = \) _____
2. \(7 \times 3 = \) _____
3. \(? \cdot 5 = 35\)
4. \(72 \div ? = 9\)
5. \(12 \cdot 5 = \) _____
6. \(4 \times 2 = \) _____
Example Worksheet in Braille

• The title is centered.
• A blank line follows the title.
• Directions are followed by numbered problems
• Begin directions in cell 5 with runover lines beginning in cell 3.
• Problems begin in cell 1.
Page Numbering

• All page numbers are in UEB.
• Leave 3 braille cells between the text on the line and the page number.
• The print page number is placed at the end of the first line of the page.
• If the transcription of a print page extends to a second braille page, put the letter “a” in front of the print page number. For a third braille page, put the letter “b.”
• Braille page numbers are consecutive: 1, 2, 3, etc.
• The braille page number is placed at the end of the bottom line of the page.
Mixed Review

Solve each multiplication and division problem.

1. $64 \div 8 = _____$
2. $7 \times 3 = _____$
3. $? \cdot 5 = 35$
4. $72 \div ? = 9$
5. $12 \cdot 5 = _____$
6. $4 \times 2 = _____$

Page Number Example

Print page number

Braille page number
Activity 4A

Decide if each statement is true or false.

1. The title of a worksheet is centered.
2. Use Nemeth numbers for page numbers when preparing a math worksheet.
3. Follow print capitalization when brailling a math worksheet.
4. Most materials for students in second grade are double-spaced.
5. It is allowed to change the order of the problems when preparing a math worksheet in braille.
Activity 4A: Answer Key

1. True – The title of a worksheet is centered.
2. False – Use UEB numbers for page numbers when preparing a math worksheet.
3. True – Follow print capitalization when brailling a math worksheet.
4. False – Most materials for students in second grade are single-spaced.
5. False – Do not change the order of problems when preparing a math worksheet in braille.
Numbered Problems with No Answer Choices

Begin in cell 1 with runover lines in cell 3.

1. What is the total when 28 is added to 49?
2. Three students added their money together. They have $12, $3, and $9. How much do they have altogether?
Numbered Problems with Answer Choices

- BANA refers to answer choices as subdivisions.
- Begin problems in cell 1 with runover lines in cell 5.
- Begin answer choices in cell 3 with runover lines in cell 5.

1. $9.00 \times 6 = ?$
   a. $36$
   b. $42$
   c. $52$
   d. $54$
Creating Tables in Braille

• When the body of a table requires one page or less in braille, do not divide the table between two braille pages.
• Center the title of the table and follow print for capitalization.
• Tables begin in cell 1.
• Use box lines when a table in print is enclosed in a box.
• A top box line is a row of ⠼⠼⠼⠼ (dots 2-3-5-6).
• A bottom box line is a row of ⠼⠼⠼⠼ (dots 1-2-4-5).
Creating Tables in Braille (continued)

• Column headings and entries in a row must end on the same braille line.

• A column separation line 🌪️ (dot 5, dots 2-5) separates a column heading from the material below.

• The column separation line goes across the length of the column.

• Guide dots 🌪️ (2 or more cells of dot 5) “guide” the reader in following from one column to the next.

• Tables consisting entirely of words and whole numbers are transcribed in UEB.
Example of a Table

• The Nemeth Code switch indicators begin in cell 1.
• The Nemeth Code opening indicator follows the column headings.
• The Nemeth Code terminator follows the last line of entries.
• Use the long dash for blank entries to be filled in.
• Remember, no contractions are used in Nemeth code!
Activity 4B

Prepare this worksheet in braille. In order to practice brailling page numbers, put the table on one braille page and the questions on a second braille page.

**Jackie’s Team Sports**

Use the table to answer questions 1-2.

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacket</td>
<td>$53</td>
</tr>
<tr>
<td>Athletic Pants</td>
<td>$24</td>
</tr>
<tr>
<td>Sweatshirt</td>
<td>$32</td>
</tr>
<tr>
<td>T-shirt</td>
<td>$14</td>
</tr>
</tbody>
</table>

1. There are 16 players on the baseball team. How much would it cost Coach Suarez to order each player a jacket?
   a. $846
   b. $848
   c. $838

### Activity 4B: Answer Key

<table>
<thead>
<tr>
<th><strong>Activity</strong></th>
<th><strong>Answer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennis</td>
<td>11</td>
</tr>
<tr>
<td>Soccer</td>
<td>12</td>
</tr>
<tr>
<td>Basketball</td>
<td>13</td>
</tr>
<tr>
<td>Baseball</td>
<td>14</td>
</tr>
<tr>
<td>Swimming</td>
<td>15</td>
</tr>
<tr>
<td>Volleyball</td>
<td>16</td>
</tr>
<tr>
<td>Dance</td>
<td>17</td>
</tr>
<tr>
<td>Art</td>
<td>18</td>
</tr>
<tr>
<td>Music</td>
<td>19</td>
</tr>
</tbody>
</table>
Activity 4B: Answer Key (continued)

1. The red dot is on the left.
2. The black dot is on the right.
3. The white dot is on the center.
4. The blue dot is on the right.
5. The orange dot is on the center.
6. The purple dot is on the left.
7. The yellow dot is on the right.
8. The green dot is on the center.
9. The black dot is on the right.
10. The blue dot is on the center.
11. The orange dot is on the left.
12. The purple dot is on the right.
13. The yellow dot is on the center.
14. The green dot is on the right.