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Provincial Resource Centre for the Visually Impaired



Resources | Leadership | Consultation



Unified English Braille (UEB) from K-3

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Implementation committee

Introduction

- In this presentation, we will cover the changes to Braille relevant for Grades K to 3
- Cover Literary and Math content
- This is a hands-on workshop, please braille the examples
- To show the changes, we have some examples in English Braille, American Edition (EBAE) and UEB

Spacing

Follow print spacing of words. Do not join (or "cuddle") words.

and, for, of, the, with

The Queen of Hearts went for a ride with the dog and the rabbit.

EBAE

UEB

The figure displays a sequence of 20 small 3x3 dot patterns arranged in two rows of 10. Each pattern is a 3x3 grid of dots, with some dots missing to form various shapes and symbols. The patterns are as follows:

- Row 1:
 - Pattern 1: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 3 dots.
 - Pattern 2: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).
 - Pattern 3: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 2 dots (left and right).
 - Pattern 4: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).
 - Pattern 5: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 2 dots (left and right).
 - Pattern 6: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).
 - Pattern 7: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 2 dots (left and right).
 - Pattern 8: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).
 - Pattern 9: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 2 dots (left and right).
 - Pattern 10: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).
- Row 2:
 - Pattern 11: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 2 dots (left and right).
 - Pattern 12: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).
 - Pattern 13: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 2 dots (left and right).
 - Pattern 14: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).
 - Pattern 15: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 2 dots (left and right).
 - Pattern 16: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).
 - Pattern 17: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 2 dots (left and right).
 - Pattern 18: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).
 - Pattern 19: Top row has 3 dots, middle row has 2 dots (left and right), bottom row has 2 dots (left and right).
 - Pattern 20: Top row has 2 dots (left and right), middle row has 3 dots, bottom row has 2 dots (left and right).

Braille these sentences

I like the shirt with the stripes and the dots

I looked everywhere for the missing sock.

None of the shoes fit.

The figure shows a sequence of 10 diagrams, each representing a 3x3 grid of dots. The sequence starts with a single dot in the center (Diagram 1) and progresses through various patterns of dots, including horizontal and vertical lines, and eventually fills the grid. The diagrams are arranged in a single row, separated by spaces.

Contractions

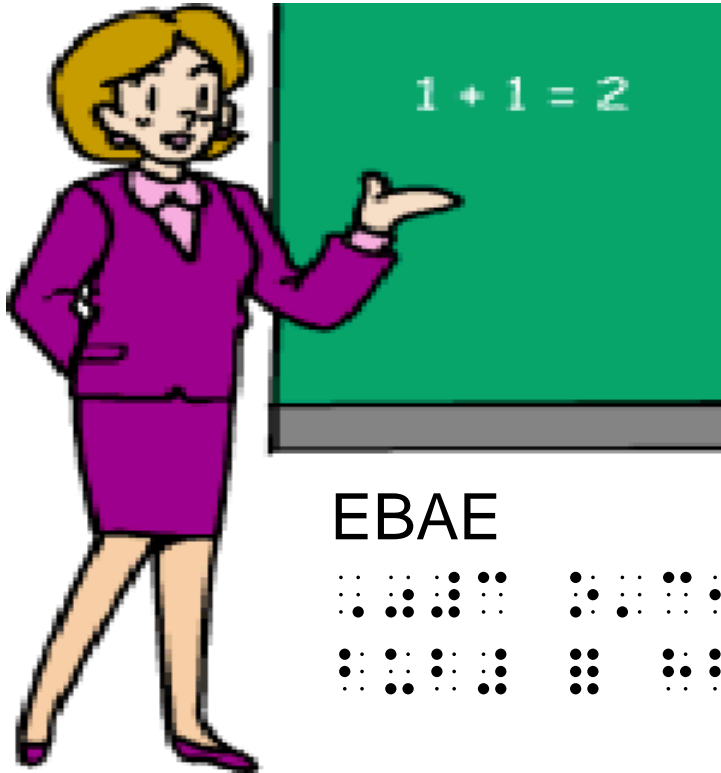
Contractions no longer used in UEB:

ble
com
dd
ally

ation
to
into
by
o'clock.



Activity



Which contractions are no longer in use in this sentence?

By 3 o'clock, Sally blew her gum into a bubble for her Daddy.

EBAE

By 3 o'clock, Sally blew her gum into a bubble for her Daddy.

UEB

By 3 o'clock, Sally blew her gum into a bubble for her Daddy.

Braille these sentences

I am not able to help you.

Can you come and play?

Mommy and Daddy went on vacation.

Braille these sentences

I am not able to help you.

⠠⠠ ⠠⠠ ⠠ ⠠⠠⠠⠠ ⠠⠠ ⠠⠠⠠⠠ ⠠⠠

Can you come and play?

⠠⠠ ⠠ ⠠⠠⠠⠠ ⠠ ⠠⠠⠠⠠⠠

Mommy and Daddy went on vacation.

⠠⠠⠠⠠⠠⠠ ⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠ ⠠⠠ ⠠⠠⠠⠠⠠⠠⠠

More Practice

I really like ice cream.

I had fun playing soccer.

Maggie carried the computer table into the house.

I go to bed by nine o'clock.

More Practice

I really like ice cream.

⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠ ⠠⠠⠠ ⠠⠠⠠⠠⠠

I had fun playing soccer.

⠠⠠ ⠠⠠ ⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠

Maggie carried the computer table into the house.

⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠
⠠⠠⠠⠠⠠

I go to bed by nine o'clock.

⠠⠠ ⠠ ⠠⠠ ⠠⠠ ⠠⠠ ⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠

Prefixes and Roots

The cells preceding the root are called prefix.

For example:

A capital letter is made up of a root (the letter) preceded by a prefix (the capitalized letter indicator).

Prefixes have always been used in Braille:

Will ⠠⠠⠠⠠⠠⠠

word ⠠⠠⠠⠠⠠⠠

work ⠠⠠⠠⠠⠠⠠

world ⠠⠠⠠⠠⠠⠠



Punctuation

The following are examples of punctuation that have been changed in UEB:

single quotes ‘ ’



double quotes “ ”



parentheses ()



brackets []



braces { }



Practice

She said, “UEB ‘Rocks!’”

Answer the question [Yes] or [No].

I picked up my (tea) cup.

Practice

She said, “UEB ‘Rocks!’”



Answer the question [Yes] or [No].



I picked up my (tea) cup.



Dots and Dashes

ellipse ...

dash —

long dash ——

hyphen -

underscore _



A dot is a dot is a dot. (period, decimal point, ellipsis and dot as in a web address)



Braille the examples

The winner is...

www.prcvi.org

I like merry-go-rounds.

Fill in the _____.

Oh dear——it's raining—we'll get wet!

Use a long dash in braille only when print uses both a short and long dash.

Braille the examples

The winner is...



www.prcvi.org



I like merry-go-rounds.



Fill in the _____.



Oh dear——it's raining—we'll get wet!

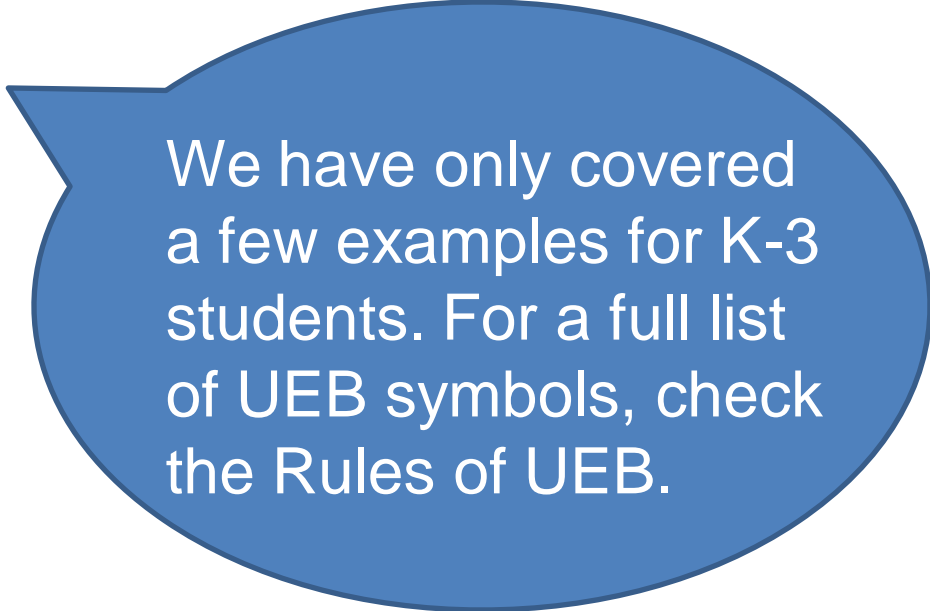


Use a long dash in braille only when print uses both a short and long dash.

Symbols

The following symbols have been changed in UEB

degree °	⠠⠨⠠
percent %	⠠⠨⠠
bullet •	⠠⠨⠠
dollar \$	⠠⠨⠠
cent ¢	⠠⠨⠠
at sign @	⠠⠨⠠
check mark ✓	⠠⠨⠠
Transcriber's note opening	⠠⠨⠠⠨⠠
Transcriber's note closing	⠠⠨⠠⠨⠠



We have only covered a few examples for K-3 students. For a full list of UEB symbols, check the Rules of UEB.

Braille the examples

5°

\$10.50

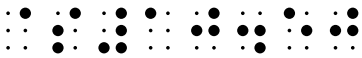
82¢

I like PB&J sandwiches.

Put a √ beside each sentence.

Braille the examples

5° 

\$10.50 

82¢ 

I like PB&J sandwiches.



Put a ✓ beside each sentence.



More Practice

Ingredients:

- sugar
- egg

My e-mail is my_inbox@me.com.

I got 100%!

More Practice

Ingredients:

- sugar
- egg

Ingredients:

• sugar

• egg





My e-mail is my_inbox@me.com.

My e-mail is my_inbox@me.com.

I got 100%!

I got 100%!

Capitalization Indicators

Capitalized letter	
Capitalized word	
Capitalized passage	
Capitalization terminator	

Place after the
last word/symbol
in the capitalized
passage

A passage is three or
more words/symbols-
sequences and it may
include non-
alphabetic symbols

Used to set Grade 1 mode when the Grade 1 meaning of symbol could be confused with a contraction or number.

The figure consists of 10 small 5x5 grids arranged horizontally, each representing a step in the evolution of a pattern of black dots. The dots are positioned at the intersections of the grid lines. The pattern starts in the first grid as a small cluster of dots and grows in complexity and size through the subsequent grids, showing a clear progression of the pattern's development.



The numeric indicator also sets
grade 1 mode.

See the Rule Book for complete details.

E-mail me at gr8invention@example.com!







Braille These Examples

He shouted, “S-T-O-P!”

G-g-g-g-g-go!

The sign said: SCHOOL WILL BE OUT
UNTIL FURTHER NOTICE.

Figure 1 displays nine small plots arranged in a 3x3 grid, each showing a different spatial pattern of points. The patterns are as follows:

- Top-left: A single point in the center.
- Top-middle: A 2x2 grid of points in the center.
- Top-right: A 3x3 grid of points.
- Middle-left: A single point in the center, with two additional points at the top-left and top-right corners.
- Middle-middle: A 2x2 grid of points in the center, with two additional points at the top-left and top-right corners.
- Middle-right: A 3x3 grid of points, with two additional points at the top-left and top-right corners.
- Bottom-left: A single point in the center, with four additional points at the top-left, top-right, bottom-left, and bottom-right corners.
- Bottom-middle: A 2x2 grid of points in the center, with four additional points at the top-left, top-right, bottom-left, and bottom-right corners.
- Bottom-right: A 3x3 grid of points, with four additional points at the top-left, top-right, bottom-left, and bottom-right corners.

The figure shows a 3x3 grid of 27 small 3x3 dot patterns. Each pattern is a 3x3 grid of dots, where some dots are filled (black) and others are empty (white). The patterns represent the digits 0-9 in a stylized font. The patterns are arranged in three rows of three and three columns of three.

Typeface Indicators

Can you
identify the
root and the
prefix?

Boldface symbol 

Boldface word 

Boldface passage 

Boldface terminator 

Italic symbol 

Italic word 

Italic passage 

Italic terminator 

Underlined symbol 

Underlined word 

Underlined passage 

Underlined terminator 

Braille these sentences

I am so *excited!*

Is the e in **red** a short or long vowel?

Underline the correct answer.

Have a great summer vacation! she said.

The figure consists of 10 small 3x3 grids of dots, arranged horizontally. Each grid represents a number from 1 to 10. The dots are either black or white. The patterns are as follows:

- Diagram 1: Black dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- Diagram 2: Black dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- Diagram 3: Black dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- Diagram 4: Black dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- Diagram 5: White dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- Diagram 6: White dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- Diagram 7: White dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- Diagram 8: White dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- Diagram 9: White dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).
- Diagram 10: White dots at (1,1), (1,2), (1,3), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3).

The figure consists of 10 small grids, each representing a step in the evolution of a pattern of black dots. The grids are arranged horizontally. The first grid has 4 dots. The second has 2 dots. The third has 8 dots. The fourth has 12 dots. The fifth has 16 dots. The sixth has 20 dots. The seventh has 24 dots. The eighth has 28 dots. The ninth has 32 dots. The tenth has 36 dots. The patterns are symmetric and grow outwards from the center.

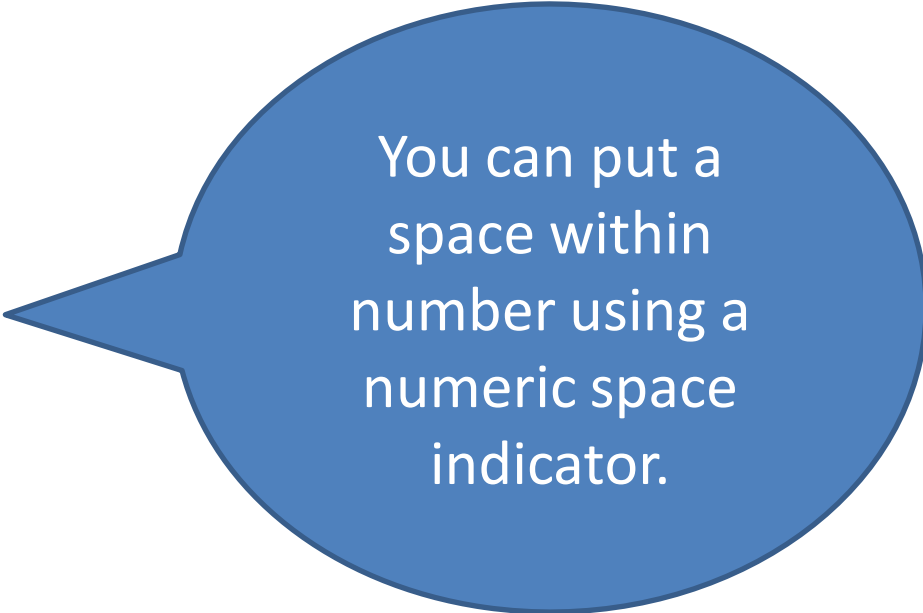
Don't forget to call home ...

604-264-5052



604 283 5069





You can put a
space within
number using a
numeric space
indicator.

... or write!

1701-4567 5th St.
Burnaby, B.C.
Canada
V6Y 4V3

My mom's office is on the 21st floor.

You can no longer
use contractions
following ordinal
numbers

Braille the example

573-5739 19th Street
Vancouver, BC
CANADA
V4K 8E2

Phone: 604-375-3253

Braille the example

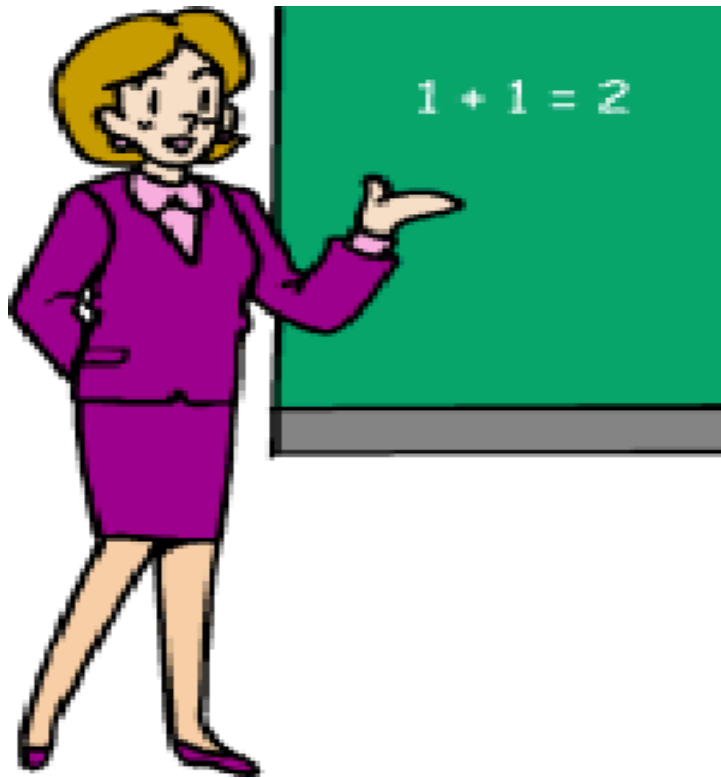
573-5739 19th Street
 Vancouver, BC
 CANADA
 V4K 8E2

Phone: 604-375-3253

573-5739 19th Street
 Vancouver, BC
 CANADA
 V4K 8E2

 Phone: 604-375-3253

Mathematics




All numbers in UEB are brailled in the upper portion of the cell, even in technical material.



Basic Math Symbols

Plus + 

Minus - 

Equals = 

Multiplication x 

Division ÷ 

$$4 + 3 = 7$$



$$2 \times 3 = 6$$



$$7 - 2 = 5$$



$$10 \div 2 = 5$$



Braille These Problems

$$1 + 1 = 2$$

$$181 - 104 = 77$$

$$3 \times 5 = 15$$

$$27 \div 3 = 9$$

Braille These Problems

$$1 + 1 = 2$$



$$181 - 104 = 77$$



$$3 \times 5 = 15$$



$$27 \div 3 = 9$$



More Math Symbols

Greater Than >



Less Than <



Forward Slash /



Superscript ²



24/7



Is 5 > 3?



2²



Is 2 < 1?



cm²



More Practice!

The number is > 5 but < 10 .

2^3 is the same as $2 \times 2 \times 2$.

01/25/14

More Practice!

The number is > 5 but < 10 .

2^3 is the same as $2 \times 2 \times 2$.

01/25/14

Fractions

Simple fraction line



Forward Slash /



Simple Numeric Fraction

$\frac{1}{2}$

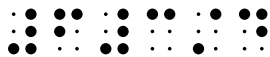


$\frac{1}{4}$



Mixed number

$6 \frac{3}{4}$



Fractions in linear form

$\frac{7}{11}$



Now Practice

One quarter is written as $\frac{1}{4}$.

$$\frac{1}{8}$$

$$5\frac{1}{2}$$

$$24/7/365$$

Now Practice

One quarter is written as $\frac{1}{4}$.



$\frac{1}{8}$



$5\frac{1}{2}$



24/7/365



Measurement



There are two ways to show feet and inches depending on whether the print uses straight or directional symbols.

6' ⠠⠠⠠
 5'10" ⠠⠠⠠⠠⠠⠠⠠⠠
 X" long ⠠⠠⠠⠠ ⠠⠠⠠

9' ⠠⠠⠠
 4' 11" ⠠⠠⠠ ⠠⠠⠠⠠⠠⠠

For K-3 students, we suggest using the directional symbols.

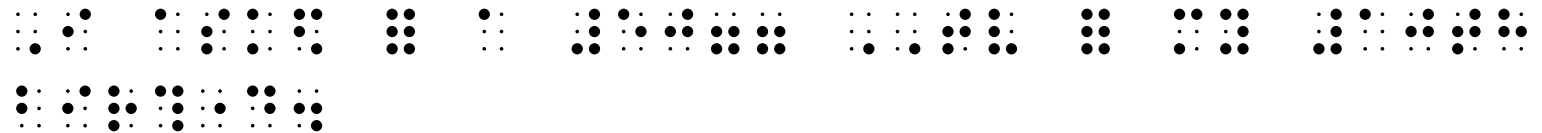
Now Your Turn

I asked for a 50" TV for my 10th birthday.

My daddy is 6' 3" tall.

Now Your Turn

I asked for a 50" TV for my 10th birthday.



My daddy is 6' 3" tall.



Spatial Calculation

In spatial calculation, you may use a numeric passage indication and a numeric terminator. This sets numeric and grade 1 mode.

Numeric passage indicator ⠠⠠⠠

Numeric terminator ⠠⠠⠠

Cancellation indicator ⠠⠠⠠

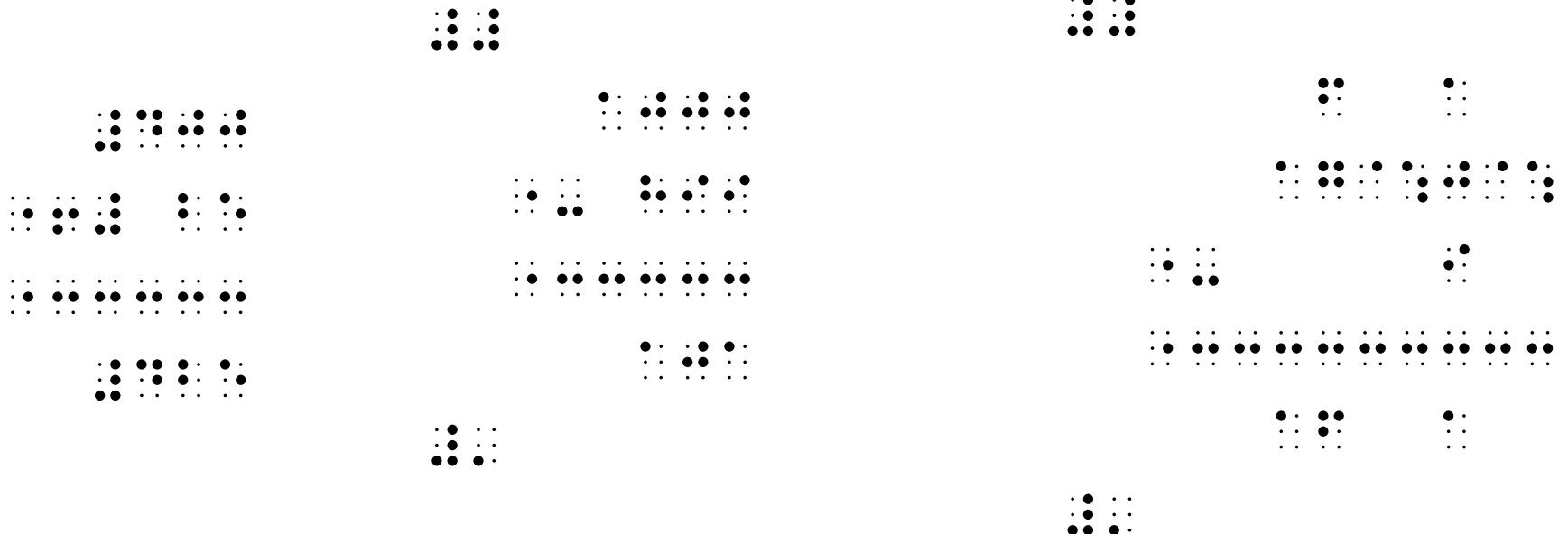
In a numeric passage, any lower-case letters (a to j) is preceded by grade 1 indicator.

Spatial Calculation Examples

$$\begin{array}{r} 400 \\ + 25 \\ \hline 425 \end{array}$$

$$\begin{array}{r} 1000 \\ - 899 \\ \hline 101 \end{array}$$

$$\begin{array}{r} ^6 ^1 \\ 1 \overline{7} 0 \\ - 9 \\ \hline 1 \ 6 \ 1 \end{array}$$

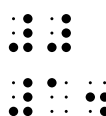


PRACTICE


$$\begin{array}{r}
 7 \quad 12 \quad 4 \quad 16 \\
 1. \quad \cancel{8} \, \cancel{2} \, \cancel{5} \, \cancel{6} \\
 - \quad 2 \, 3 \, 4 \, 7 \\
 \hline
 5 \, 9 \, 0 \, 9
 \end{array}$$

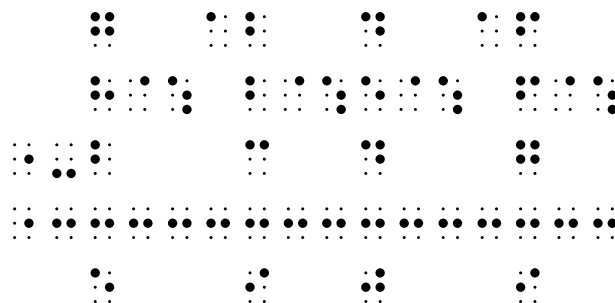


PRACTICE

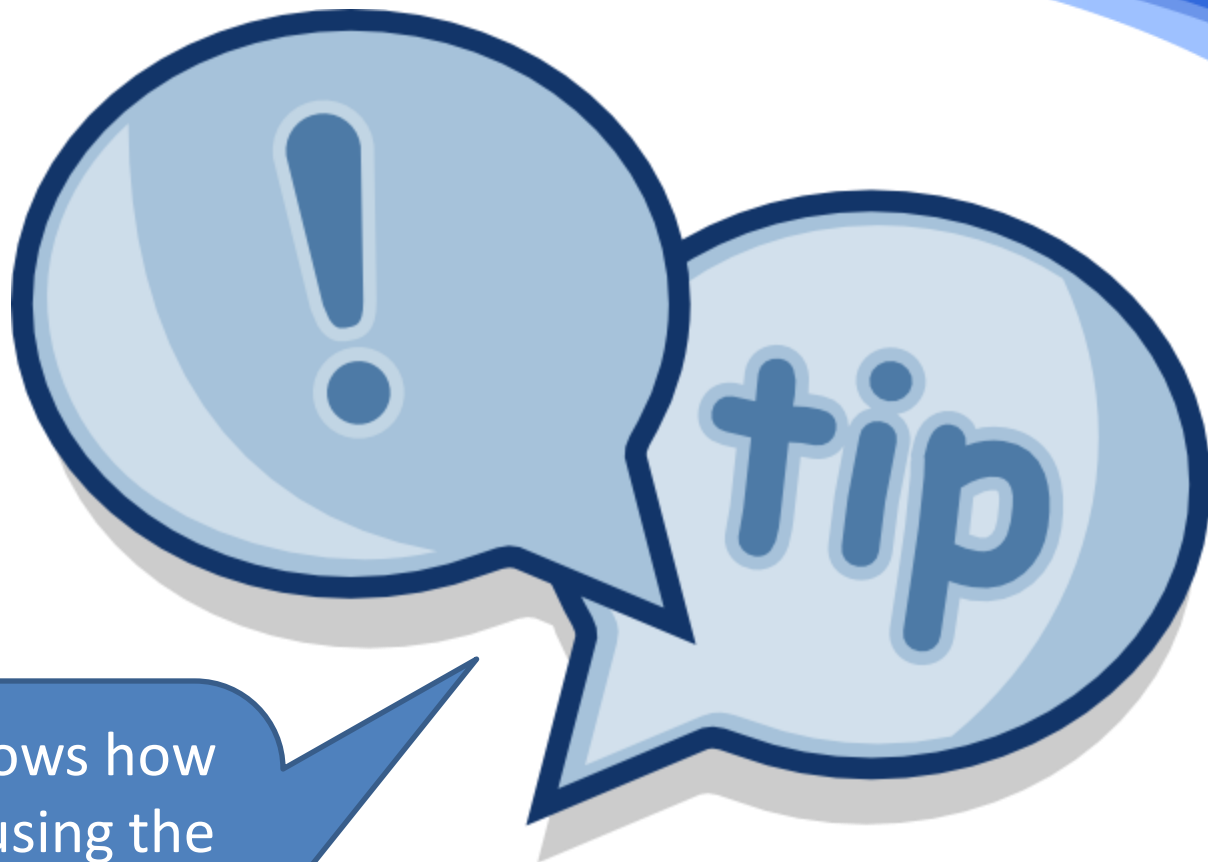
7 12 4 16 

1.
$$\begin{array}{r} \cancel{8} \cancel{2} \cancel{5} \cancel{6} \\ - 2347 \\ \hline 5909 \end{array}$$









Once a student knows how to read problems using the cancellation indicator, they can complete spatial problems without it for speed and efficiency.

CONGRATULATIONS!

You have come to the end of this presentation on UEB from K to 3.

We hope you have enjoyed it and found it helpful.

Let us know if you have any questions.

For further reference refer to the Rules of UEB and Technical Guidelines <http://www.iceb.org/ueb.html>