



MARYLAND COMMON CORE CURRICULUM FRAMEWORKS FOR BRAILLE

Braille, Formatting, and Tactile Graphics Checklists By Grade

Student Name: _____



Pre Kindergarten

Literary Braille Code

	Literary Sign	Braille Symbol	
Capital sign	N/A	⠠	
Double capital sign	N/A	⠠⠠	
Numeric indicator	N/A	⠠	
Period	.	⠠	
Question mark	?	⠠	
Transcriber's note sign	N/A	⠠⠠	
Opening		⠠	
Closing		⠠	
Exclamation point	!	⠠	
Italic sign (single)	N/A	⠠	
Italic sign (double)	N/A	⠠⠠	
Alphabet	a b c d e f g h i j k l m n o p q r s t u v w x y z	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	
Literary numbers 0-10	0 1 2 3 4 5 6 7 8 9 10	⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠	
First Name	N/A		

Formatting






	Literary Sign	Braille	
Print page numbers	N/A	Top, right corner 1, a1, b1	
Braille page numbers	N/A	Bottom, right corner	
New print page indicator	N/A	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	
Title page	N/A	Braille titles are sometimes centered on the page, but they can also be located along the spine.	

Pre Kindergarten

Nemeth Braille Code

	Mathematical Sign	Nemeth Symbol	
Numeric indicator	N/A	⠠	
Read numbers 0-10	0 1 2 3 4 5 6 7 8 9 10	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	
Punctuation indicator	1.	⠠⠠⠠⠠	
Transcriber's note symbols Opening Closing	N/A	⠠⠠ ⠠⠠	

Tactile Graphics

	Mathematical Sign	Braille	
Number line	←→	Tactile graphic	
Square		Tactile graphic	
Circle		Tactile graphic	
Triangle		Tactile graphic	
Rectangle		N/A	
Objects	Example: picture of a car 	Tactile graphic Represented with simple, solid shapes (Example: rectangle)	

Kindergarten

Literary Braille Code

	Literary Sign	Braille Symbol	
Double dash	----	⠠⠠⠠⠠⠠⠠	
Ellipsis	...	⠠⠠⠠	
Letter sign	N/A	⠠	
Transcriber's note Opening Closing	N/A	⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠	
Alphabet words (BOP)	but can do every from go have just knowledge like more not people quite rather so that us very will it you as	⠠⠠ ⠠⠠	
Contractions (BOP)	and of for the with	⠠⠠ ⠠⠠ ⠠⠠ ⠠⠠ ⠠⠠	

Formatting/Tactile Graphic

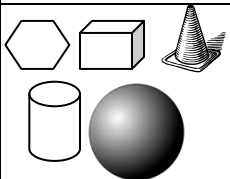
	Literary Sign	Braille	
Title page: illustrator	N/A	According to <i>Braille Formats</i> , the illustrator is omitted from the title page so the name may not always be present.	
Graphic organizers	N/A	See <i>Braille Formats</i>	
Maps	N/A	See Appendix C: Resources	

Kindergarten

Nemeth Braille Code

	Mathematical Sign	Nemeth Symbol	
Hyphen	-	⠠⠤	
Read and write numbers 0-20	0-20	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	
Mathematical comma	,	⠠⠠⠠	
Ellipse	2, 3, 4, ...	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	
Plus	+	⠠⠠⠠	
Minus	-	⠠⠠⠠	
Equal to	=	⠠⠠⠠⠠	
Write equations in horizontal format	1+2 = 3	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	

Tactile Graphics

	Mathematical Sign	Braille	
Hundreds chart	N/A	Adapted Manipulative or Tactile Graphic with Nemeth Braille Code Numbers	
Hexagon, cube, cone, cylinder, sphere		Tactile graphic	

Grade 1

Literary Braille Code

	Literary Sign	Braille Symbol	
Hyphen	-	⠠	
Comma	,	⠠	
Quotation marks Opening Closing	" "	⠠ ⠠	
Colon	:	⠠	
Apostrophe	'	⠠	
Accent sign	N/A	⠠	
Prefixes (CC)	com con dis	⠠ ⠠ ⠠	
Suffixes (CC)	ation ble ful ity less ment ness tion	⠠⠠ ⠠ ⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠	
Common consonant digraphs (CC)	gh	⠠	
Common consonant digraphs (CC and BOP)	ch sh th wh	⠠ ⠠ ⠠ ⠠	
Prepositions (CC)	above below behind beneath beside between beyond	⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠	

Grade 1

Contractions (BOP)	about across	⠠⠠⠠⠠ ⠠⠠⠠⠠⠠
	after afternoon	⠠⠠⠠ ⠠⠠⠠⠠⠠⠠
	again against	⠠⠠⠠ ⠠⠠⠠⠠⠠
	almost already	⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠
	also always ar be	⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠ ⠠⠠
	because before	⠠⠠⠠⠠ ⠠⠠⠠⠠
	blind braille by	⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠
	cannot character	⠠⠠⠠⠠ ⠠⠠⠠⠠
	child children	⠠⠠ ⠠⠠⠠⠠
	could day ea ed	⠠⠠⠠⠠ ⠠⠠⠠ ⠠⠠ ⠠⠠
	either en enough	⠠⠠⠠⠠ ⠠⠠ ⠠⠠
	er ever father	⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠
	first friend	⠠⠠⠠⠠ ⠠⠠⠠⠠
	good great had	⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠⠠⠠
	here him himself	⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠
	his in ing into its	⠠⠠⠠ ⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠⠠⠠
	know letter little	⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠
	lord many	⠠⠠⠠⠠ ⠠⠠⠠⠠
	mother much	⠠⠠⠠⠠ ⠠⠠⠠⠠
	must myself	⠠⠠⠠⠠ ⠠⠠⠠⠠⠠
	name neither	⠠⠠⠠⠠ ⠠⠠⠠⠠⠠
	one ou ought	⠠⠠⠠⠠ ⠠⠠⠠ ⠠⠠⠠⠠
	out ow paid part	⠠⠠⠠ ⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠
	question quick	⠠⠠⠠⠠⠠ ⠠⠠⠠⠠
	right said shall	⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠
	should some	⠠⠠⠠⠠ ⠠⠠⠠⠠
	spirit st still such	⠠⠠⠠⠠⠠ ⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠
	their there these	⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠⠠⠠
	this those	⠠⠠⠠⠠ ⠠⠠⠠⠠
	through time to	⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠
	today together	⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠

Grade 1

	tomorrow	⠠⠏⠗⠊⠎⠗⠊⠑	
	tonight under	⠠⠏⠗⠊⠎⠊⠒⠗⠑ ⠠⠗⠊⠒⠑	
	upon was were	⠠⠗⠊⠒⠑ ⠠⠗⠊⠎ ⠠⠗⠑⠗⠑	
	where which	⠠⠗⠑⠗⠑ ⠠⠗⠊⠒⠑	
	whose word	⠠⠗⠏⠗⠑ ⠠⠗⠑⠗⠔	
	work world	⠠⠗⠑⠗⠕⠗⠗ ⠠⠗⠑⠗⠕⠗⠔	
	would young	⠠⠗⠑⠗⠔ ⠠⠗⠑⠗⠑	
	your yourself	⠠⠗⠑⠗⠑⠗ ⠠⠗⠑⠗⠑⠗⠑⠗	

Formatting/Tactile Graphics

	Literary Sign	Braille	
Headings	N/A	<i>See Braille Formats</i>	
Table of contents: guide dots	N/A	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	
Boldface indicator Single Double	N/A	⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	
Underline indicator Single Double	N/A	⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠	
Boldface and italic indicator Single Double	N/A	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	
Color indicator (follow with first letter of color)	N/A	⠠⠠⠠	

Grade 1

Nemeth Braille Code

	Mathematical Sign	Braille	
Numbers 21-120	32 33 99 100		
Tally marks			
Shape indicator	N/A		
Horizontal equations with question mark or blank space for omission	$4 + ? = 7$ $4 + \quad = 7$		
Horizontal equations with blank line for omission	$4 + _ = 7$		
Horizontal equations with box/square for omission	$4 + \square = 7$		
Spatial arrangements of addition and subtraction Separation line extending one space on each side of arrangement	$\begin{array}{r} 40 \\ +23 \\ \hline 63 \end{array}$		
Carried number indicator	$\begin{array}{r} 1 \\ 47 \\ +23 \\ \hline 70 \end{array}$		
Less than	$2 < 4$		
Greater than	$5 > 1$		

Tactile Graphics

	Mathematical Sign	Braille	
Rectangular prisms, trapezoid, half-circle, quarter circle		Tactile graphics	

Grade 2

Literary Braille Code

	Literary Sign	Braille Symbol	
Dash	--	⠠⠠	
Semicolon	;	⠠⠨	
Parentheses Opening Closing	()	⠠⠠ ⠠⠠	
Termination sign	N/A	⠠⠠	
Reference indicator	N/A	⠠⠠	
Contractions (BOP)	according ally ance afterward although altogether bb bb conceive conceiving dd deceive deceiving declare declaring ence ff gg herself itself immediate necessary 'clock ong oneself ourselves ound ount paid perceive perceiving perhaps receive receiving rejoice rejoicing sion thyself themselves work yourselves	⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠	



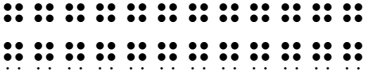

Grade 2

Computer braille code: website address/hyperlink	www.google.com		
Trademark	™		
Copyright	©		

Diacritical marks			
Stress Primary Secondary Tertiary	N/A		
Breve	ă		
Cedilla	ç		
Circumflex	â		
Crossbar or underbar	g l		
Ligatures, tied letters	s h		
Macron	ū		
Overdot	ř		
Tilde	~ n		
Umlaut, diaeresis	ä		
Acute accent	á		
Grave accent	à		
Schwa	ə		

Grade 2

Formatting

	Literary Sign	Braille	
Bullet Primary	•		
Secondary	○		
Paragraph indentation	N/A	Two spaces	
Box lines Top Bottom	N/A		
Reading captions	N/A	Written as Transcriber's Notes	
Reading subheadings	N/A	<i>See Braille Formats</i>	
Reading columned material	N/A	<i>See Braille Formats</i>	
Dictionary skills: locating guide words	N/A	N/A	
Using a glossary and index	N/A	N/A	
Foreign language punctuation indicator	N/A		

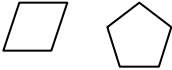
Grade 2

Nemeth Braille Code

	Mathematical Sign	Nemeth Symbol	
Numbers to 1000	500 875 1000	⠠⠼⠠⠅⠠⠋⠠⠗⠠⠋⠠⠋⠠⠋	
Colon	:	⠠⠆	
Decimal point	.	⠠⠠⠠	
Time	3:00	⠠⠼⠠⠗⠠⠠⠠⠠	
Money	Pictures of currency and coins	Penny – pn, nickel – nk, dime – dm, quarter – qr	
Cent sign	5¢	⠠⠼⠠⠠⠠	
Dollar sign	\$1.00	⠠⠠⠠⠠⠠⠠⠠	
Reading a key to a graph	N/A	Contains Nemeth Braille Code and sometimes tactile graphics	
Horizontal fraction bar	—	⠠⠠⠠	
Simple fraction with horizontal bar	$\frac{2}{3}$	⠠⠠⠠⠠⠠⠠	
Diagonal fraction bar	/	⠠⠠⠠	
Simple fraction with a diagonal bar	2/3	⠠⠠⠠⠠⠠⠠	
Read spatial arrangements of fractions	$\frac{1}{5}$	⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠⠠	
Termination indicator	N/A	⠠⠠	
Cancellation indicator (used in examples of spatial arrangements, not for computation)	$\frac{1}{\frac{5}{\frac{25}{5}}}$	⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠ ⠠⠠⠠	

Grade 2

Tactile Graphics

	Mathematical Sign	Nemeth Symbol	
Ruler (nearest inch, centimeter, foot, yard, meter)	N/A	Tactile graphics	
Clocks (nearest 5 minutes)	N/A	Tactile graphic	
Dot (Line) plot (read and create)	Number line with Xs plotted horizontally above numbers for data points	Number line is a tactile graphic with a full cell to represent each X for plotted points ⠠⠨⠠⠨⠠⠨	
Picture graph (read and create)	N/A	Lines created as a tactile graphic with Nemeth Braille Code labels. A full cell represents each picture ⠠⠨⠠⠨⠠⠨	
Bar graph (read and create)	N/A	Tactile graphic with Nemeth Braille Code labels	
Quadrilaterals, pentagons		Tactile graphic	

Grade 3

Literary Braille Code

	Literary Sign	Braille Symbol	
Brackets	[
Opening]		
Closing			

Formatting

	Literary Sign	Braille	
Nemeth Code Indicators	N/A		
Begin			
End			
Poetry Stanzas	N/A	See <i>Braille Formats</i>	
Numbered lines			
Formats (shape)			



Nemeth Braille Code

	Mathematical Sign	Nemeth Symbol	
Multiplication cross	x		
Multiplication dot	•		
Division	÷		
Division cage (spatial format)	$\begin{array}{r} 7 \\ 3 \overline{) 21} \end{array}$		
Division cage (linear format)	$3 \overline{) 21}$		
Multipurpose indicator	N/A		
Remainder	$\begin{array}{r} 7 \text{ R}1 \\ 3 \overline{) 22} \end{array}$		
Parentheses	(5, 10)		

Grade 3

English letter indicator	N/A	⠠	
Picture graph with 2:1 scale (read and create)	N/A	<p>Lines created as a tactile graphic with Nemeth Braille Code labels. A full cell represents each whole picture</p> <p style="text-align: center;">⠠</p> <p>Dots 4, 5, 6 represent each half picture</p> <p style="text-align: center;">⠠</p>	

Tactile Graphics

	Mathematical Sign	Nemeth Symbol	
Rhombus		Tactile graphic	
Right angle		N/A	
Area and perimeter	N/A	Tactile graphics	

Grade 4

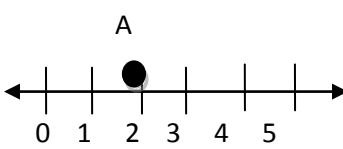
Literary Braille Code

NONE

Formatting

NONE

Nemeth Braille Code

	Mathematical Sign	Nemeth Symbol							
Number line		<p>Beginning in grade 4, all number lines are done using Nemeth Braille Code symbols</p> <p>Axis Line ⠑⠎</p> <p>Left arrow ⠔⠌ Right arrow ⠔⠐</p> <p>Scale/tick mark ⠓⠎ Solid point ⠆</p> <p style="text-align: center;">⠑⠎</p> <p style="text-align: center;">⠔⠌ ⠔⠐</p> <p style="text-align: center;">⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎</p> <p style="text-align: center;">⠑⠎</p> <p style="text-align: center;">⠔⠌ ⠔⠐ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎</p>							
Dot (Line) plot (read and create)	Number line with Xs plotted vertically above numbers for data points	<p>Dot (Line) Plot</p> <p>Number lines are created using Nemeth Braille Code symbols</p> <p>Axis Line ⠑⠎</p> <p>Left arrow ⠔⠌ Right arrow ⠔⠐</p> <p>Scale/tick mark ⠓⠎ X ⠏⠃</p> <p style="text-align: center;">⠑⠎</p> <p style="text-align: center;">⠔⠌ ⠔⠐ ⠔⠐ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎</p> <p style="text-align: center;">⠑⠎</p> <p style="text-align: center;">⠔⠌ ⠔⠐ ⠔⠐ ⠓⠎ ⠓⠎ ⠓⠎ ⠓⠎</p>							
Tables	<table border="1" style="border-collapse: collapse; margin: auto;"> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> </table>							<p>Top of box ⠑⠎</p> <p>Separation line after heading ⠑⠎</p> <p>Bottom of box ⠑⠎</p> <p>Guide dots ⠑⠎⠑⠎</p>	

Grade 4

Degree	5°		
Mixed numeral with diagonal fraction bar	$4 \frac{3}{4}$		
Circle			
Triangle			
Diamond			
Square			
Star			
Rectangle			
Angle	\sphericalangle		
Angle ABC	$\sphericalangle ABC$		
Directly over indicator	N/A		
Line AB	 AB		
Line segment AB	 AB		
Ray AB	 AB		
Parallel			
Perpendicular	\perp		

Tactile Graphics

	Mathematical Sign	Nemeth Symbol	
Point	•	Tactile graphic	
Angle	\sphericalangle	Tactile graphic	
Line		Tactile graphic	
Ray		Tactile graphic	
Line segment		Tactile graphic	

Grade 5

Literary Braille Code

NONE

Formatting

NONE

Nemeth Braille Code

	Mathematical Sign	Nemeth symbol	
Set braces	{ }	⠠⠨⠠⠨	
Brackets	[]	⠠⠨⠠⠨	
Ordered pair	(<i>a</i> , <i>b</i>)	⠠⠨⠠⠨⠠⠨	
Exponent (superscript)	3^2	⠠⠨⠠⠨	
Baseline indicator	2^2+3^2	⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨⠠⠨	

Tactile Graphics

	Mathematical Sign	Nemeth symbol	
Coordinate grid (axis, origin)	N/A	Tactile graphics	

Grade 6

Literary Braille Code

NONE


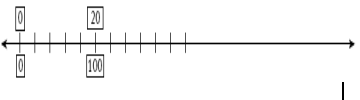

Formatting

NONE

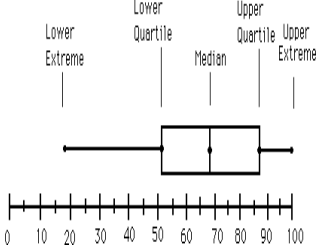
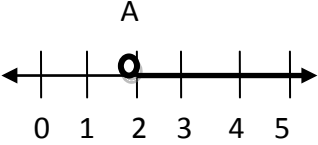
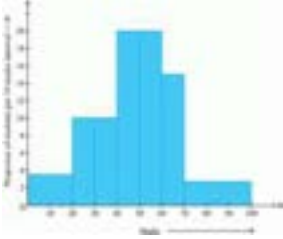
Nemeth Braille Code

	Mathematical Sign	Nemeth symbol	
Not equal to	\neq	⠠⠨⠠	
Ratio	$2 : 4$	⠠⠨⠠⠠⠠⠠⠠⠠⠠⠠	
Percent	$\%$	⠠⠠⠠	
Absolute value of x	$ x $	⠠⠠⠠⠠⠠	
Is less than or equal to	\leq	⠠⠠⠠⠠	
Is greater than or equal to	\geq	⠠⠠⠠⠠	
Negative number	$-(-3) = 3$	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	
Use of variable in expressions	$A=6s^2$	⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠	

Tactile Graphics

	Mathematical Sign	Nemeth symbol	
Tape diagram		Tactile graphic	
Double number line diagrams		Nemeth Braille Code Number line	
Vertical number line	<p style="text-align: center;"><small>Figure 3 - Vertical Number Line</small></p> 	Nemeth Braille Code number line	

Grade 6

<p>Box plot or Box and whisker plot</p>		<p>Nemeth Braille Code Number Line with tactile graphics for box and whiskers</p>	
<p>Number line with inequality</p>		<p>Axis line ⠠⠠</p> <p>Bold axis line ⠠⠠⠠</p> <p>Open point ⠠⠠</p> <p>Solid point ⠠⠠</p> <p>Bold right arrow ⠠⠠⠠⠠</p> <p>Bold right arrow ⠠⠠⠠</p> <p style="text-align: center;">⠠⠠</p> <p style="text-align: center;">⠠⠠</p> <p style="text-align: center;">⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠</p> <p style="text-align: center;">⠠⠠⠠⠠</p> <p style="text-align: center;">⠠⠠ ⠠⠠ ⠠⠠ ⠠⠠ ⠠⠠ ⠠⠠</p>	
<p>Histogram</p>		<p>Nemeth Braille Code number line and tactile graphic for bars of data</p>	

Grade 7

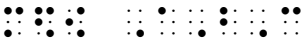
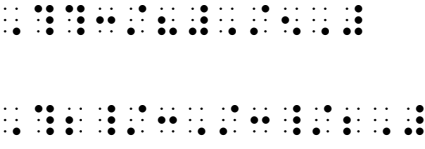






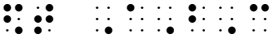




Literary Braille Code

NONE

Formatting

NONE

Nemeth Braille Code

	Mathematical Sign	Nemeth symbol	
Measure of $\angle ABC$	$m\angle ABC$		
Complex fraction indicators opening/closing with horizontal line opening/closing with diagonal line	$\frac{\frac{3}{8}}{5}$ $\frac{2/3}{3/2}$		
Repetend (horizontal modifying bar)	$3.\overline{333}$		
Rectangle	N/A		
Triangle	N/A		
Is approximately equal to	\approx		
Is congruent to	\cong		
Is similar to	\sim		
Triangle with vertices $A, B,$ and C	$\triangle ABC$		
Circle	N/A		
Greek letter indicator	N/A		
Pi	π		
Slope (using capital delta)	$\frac{\Delta y}{\Delta x}$		

Tactile Graphics

	Mathematical Sign	Nemeth symbol	
Tree diagram	N/A	Tactile graphic	

Grade 8

Literary Braille Code

NONE

Formatting

NONE

Nemeth Braille Code

	Mathematical Sign	Nemeth symbol	
Principle square root of x	\sqrt{x}	\sqrt{x}	
Index of radical	$(\sqrt[3]{8})^3 = 8$	$(\sqrt[3]{8})^3 = 8$	
Negative exponent	3^{-3}	3^{-3}	
Exponent in denominator	$\frac{1}{3^3}$	$\frac{1}{3^3}$	
A prime	A'	A'	
A double prime	A''	A''	
Transformational notation	$\angle A \rightarrow \angle A' \rightarrow \angle A''$	$\angle A \rightarrow \angle A' \rightarrow \angle A''$	

Tactile Graphics

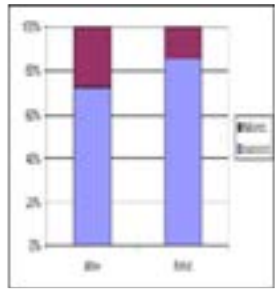
	Mathematical Sign	Nemeth symbol	
Scatter plot	N/A	Tactile graphic	
Line graph	N/A	Tactile graphic	

Algebra 1/Data Analysis

Nemeth Braille Code


	Mathematical Sign	Nemeth symbol	
Value of the function f at x	$f(x)$	$\dots \dots \dots$	
Exponent to the exponent	$\left(5^{\frac{1}{3}}\right)^3 = 5^{\left(\frac{1}{3}\right)(3)}$	$\dots \dots \dots$	
Residual (italicized e) = observed value (y) – predicted value (caret above y)	$e = y - \hat{y}$	$\dots \dots \dots$	
Sigma	$\Sigma = 0$	$\dots \dots \dots$	
Average rate of change	$\text{average rate of change} = \frac{\Delta y}{\Delta x} = \frac{f(x+h) - f(x)}{h}$	$\dots \dots \dots$	
Imaginary number	i	$\dots \dots$	
p implies q	$p \Rightarrow q$	$\dots \dots \dots$	
Proportional to	$x \propto y$	$\dots \dots \dots$	
Infinity	∞	$\dots \dots$	

Tactile Graphics

	Mathematical Sign	Nemeth symbol	
Segmented bar graph		Tactile graphic	

Algebra 2

Nemeth Braille Code

	Mathematical Sign	Nemeth symbol	
Arc with endpoints A and B		\widehat{AB}	
Sine of A	$\sin A$	$\sin A$	
Cosine A	$\cos A$	$\cos A$	
Tangent of A	$\tan A$	$\tan A$	
Logarithm	$(xy) = \log$	$\log(xy)$	
Directly under indicator	N/A	⠠	
Subscript	4⠠	4⠠	
The summation $a_1+a_2+ \dots +a_n$.	$\sum_{k=1}^n a_k$	$\sum_{k=1}^n a_k$	
n factorial	$n!$	$n!$	
Theta	θ	θ	
Empirical rule: μ is the mean of the distribution (Greek letter lower case mu) σ is its standard deviation (Greek letter lower case sigma)	$\Pr(\mu - \sigma \leq x \leq \mu + \sigma) \approx 0.68$	$\Pr(\mu - \sigma \leq x \leq \mu + \sigma) \approx 0.68$	
Formula for density (Greek letter lower case rho)	$\rho = m/v$	$\rho = m/v$	

Tactile Graphics

	Mathematical Sign	Nemeth symbol	
NONE			

Geometry

Nemeth Braille Code

	Mathematical Sign	Nemeth symbol	
Base a , of b (subscript)	$S_n = \frac{a(1-r^n)}{(1-r)}$	\dots	
Sine of A	$\sin A$	\dots	
Cosine A	$\cos A$	\dots	
Therefore	\therefore	\dots	
Union	$A \cup B$	\dots	
Intersection	$A \cap B$	\dots	
Complement	A^c	\dots	
Corresponds to	$A \iff B$	\dots	
Conditional probability	$P(A/B) = 0.3$	\dots	

Tactile Graphics

	Mathematical Sign	Nemeth symbol
NONE		