

Braille: Deciphering the Code

Adapted from American Foundation for the Blind

http://www.afb.org/braillebug/braille_deciphering.asp

People often think that Braille is a language. Actually there is a Braille code for every foreign language you can imagine including French, Spanish, Chinese, Arabic, and Hebrew. There are also Braille codes for mathematics, music, and computers.

The Braille Cell:

1 ○ ○ 4
2 ○ ○ 5
3 ○ ○ 6

The Braille characters make up the letters of the alphabet, punctuation marks, numbers, and everything else you can write in print.

The letter "a" is written with only dot 1.



The letter "d" has dots 1, 4, and 5.



The letter "y" has dots 1,3,4,5, and 6

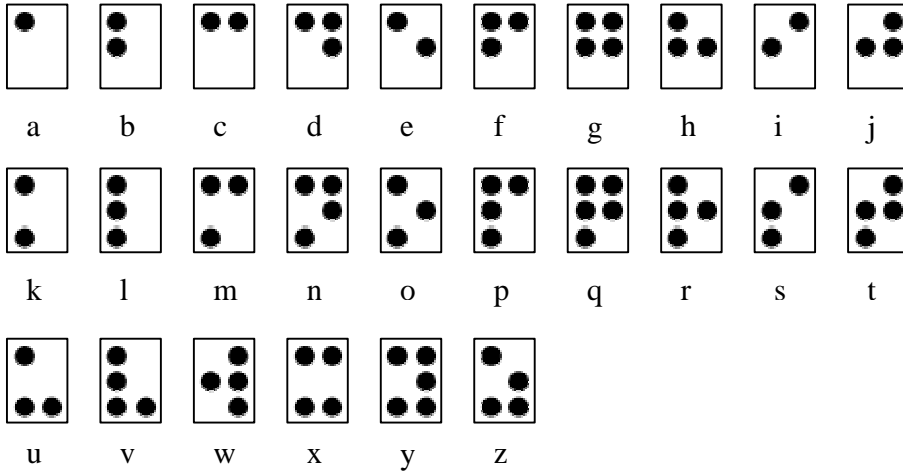


When all six dots are used, the character is called a "full cell."



And when no dots are used it's an "empty cell!"

The picture below shows you how the dots are arranged in the Braille cell for each letter of the alphabet. Do you see a pattern between the lines of the alphabet? Why do you think the “w” is not part of the pattern?



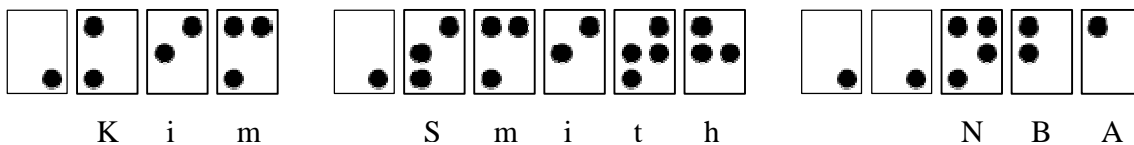
See if you can find the letters in your name and tell the dot numbers for each one.

Capitalizing in Braille

Braille does not have a separate alphabet of capital letters as there is in print. Capital letters are indicated by placing a dot 6 in front of the letter to be capitalized. Two capital signs mean the whole word is capitalized.



Look at these examples:



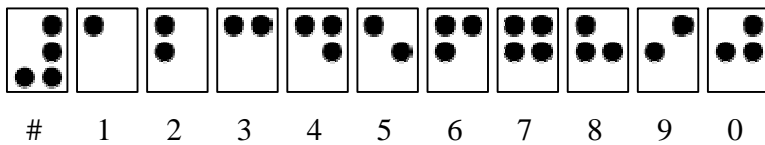
Braille Punctuation

A “period” is written with dots 2, 5, and 6. (Do you see how it is the same shape as the letter “d,” only lower in the cell?) There are other characters for each mark of punctuation such as dots 2,3, and 5 for an exclamation point. (Do you see that it is the same shape as the letter “f,” only lower in the cell? Like the previous example, which is called a “dropped d,” this is called a “dropped f”).

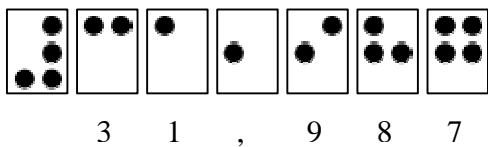


Braille Numbers

Braille numbers are made using the first ten letters of the alphabet, "a" through "j", and a special number sign, dots 3, 4, 5, and 6.



Larger numbers only need one number sign. The comma in Braille is dot 2, and is used in numbers and with words, too.

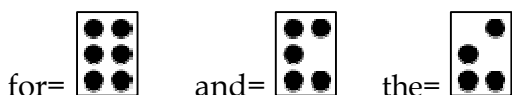


The Braille code is used for words and for numbers in sentences or page numbers, but when students take math class they learn a different code called the Nemeth code.

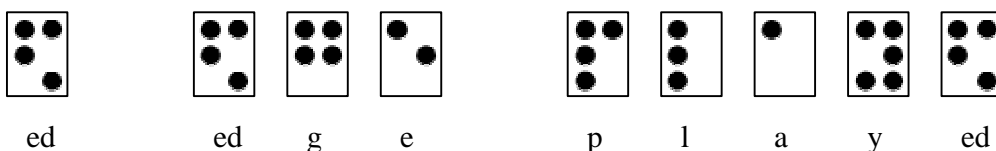
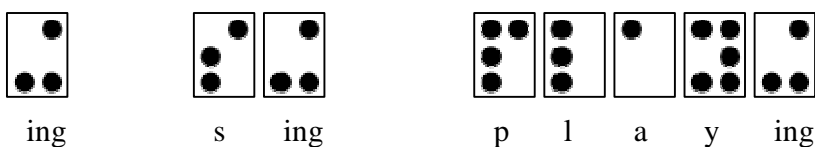
Expanding the Code

Now that you understand how dots are arranged in the Braille cell to make the letters of the alphabet and numbers, you're ready to learn more about the code. Braille uses special characters called contractions to make words shorter. We use contractions like "don't" as a short way of writing two words, such as "do" and "not." In Braille there are many additional contractions, 189 in all! Using these contractions saves space, which is very important because Braille books are much larger and longer than print books.

Some contractions stand for a whole word. For example, when the full cell is used as a contraction, it means "for." Dots 1,2,3,4 and 6 make up the word "and" and dots 2,3,4, and 6 make up the word "the."

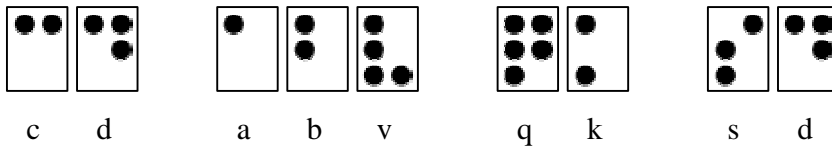


Other contractions stand for a group of letters within a word. In the example below, you see the contraction "in" (dots 3, 4, 6) in the word "sing" and as an ending in the word "playing." Likewise, you see the contraction "ed" (dots 1, 2, 4, 6) in the word "edge" and as an ending in the word "played."



In addition to contractions, the Braille code includes short-form words which are abbreviated spellings of common longer words. For example, "tomorrow" is spelled "tm", "friend" is spelled "fr", and "little" is spelled "ll" in Braille. If you text message with your friends, it's a similar idea!

Can you guess what these short-form combinations might mean?



If you guessed "could," "above," "quick," and "said," you're right!

You might think that because short-form words are so easy to spell that children who write Braille get a break on their spelling tests. Actually, Braille readers also learn regular spelling for typing on a computer.

Let's see what kind of difference contractions make in Braille. Look at the same phrase, you like him, in uncontracted Braille (sometimes called "grade 1 Braille") and contracted Braille (sometimes called "grade 2 Braille"). What do you notice about the length of the two phrases?

Uncontracted Braille:



Contracted Braille:



Did you notice that the length of the contracted Braille phrase is shorter than the uncontracted Braille phrase? If you thought there were three contractions, you're right! The word "you" is written with the letter "y" standing alone. The word "like" is written with the letter "l" standing alone, and the word "him" is one of those short-form words written "hm."

Other Braille Codes

The Braille code used for writing regular text in books, magazines, school reports, and letters is known as "literary Braille." There are other codes, though, that let people who are blind write just about anything, from math problems to music notes to computer notation!

One More Comment About Braille

People sometimes ask if it would be easier to use raised print alphabet letters, rather than dots. When you read about Louis Braille, you'll learn that raised print letters were tried in the early 1800s before he invented Braille. However, these letters were very difficult to read by touch, and writing them was even more of a problem.

If you ever see an experienced reader's fingers gliding rapidly across a page of Braille, you will appreciate the genius of the simple six-dot system. Braille can be read and written with ease by both children and adults. It is truly an invention that is here to stay.

Braille Alphabet

The six dots of the braille cell are arranged and numbered:

1	•	•	4
2	•	•	5
3	•	•	6

The capital sign, dot 6, placed before a letter makes a capital letter.

1	•	4
2	•	5
3	•	6

The number sign, dots 3, 4, 5, 6, placed before the characters a through j, makes the numbers 1 through 0. For example: a preceded by the number sign is 1, b is 2, etc.

1	•	4
2	•	5
3	•	6

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	Capital Sign	Number Sign	Period	Comma
••	••	••	••	••	••	•	••	••	•
<p>NATIONAL BRAILLE PRESS INC. 88 ST. STEPHEN STREET BOSTON, MA 02115 www.nbp.org</p>									