

A Guide to Teaching Braille Screen Input on iOS

By

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For ages Seven and Up

Objectives

When presented with an iPhone running the latest version of iOS and VoiceOver, the learner will:

- Be able to activate and deactivate Braille screen input using the rotor with 100% accuracy.
- Be able to explain the difference between “tabletop” and “screen way” orientations.
- Be able to switch between “tabletop” and “screen away” orientations with 100% accuracy.
- Be able to type five sentences with fewer than four errors.
- Be able to switch between contracted and uncontracted Braille with 100% accuracy.
- Be able to use the immediate translation feature with 100% accuracy.
- Be able to access spelling suggestions using the Braille keyboard with fewer than two verbal prompts per step.
- Be able to open apps using the Braille keyboard $\frac{3}{4}$ times.
- Be able to use the Braille keyboard to navigate by webpage element with fewer than three verbal prompts per step.

Assessment

Does the student have the following skills? If not, provide the necessary training before proceeding.

- Is the learner proficient in Braille?
- Is the learner able to navigate with VoiceOver? Use the rotor? Edit text with VoiceOver?
- Can the learner effectively navigate the Internet with VoiceOver?
- For what is the learner most likely to use Braille screen input?

Materials

An iPhone or iPad running iOS 8 or later.

Procedure

Set-up

The teacher should do the following to make sure Braille screen input is ready to use:

- Go to Settings\General\Accessibility\VoiceOver\Rotor.
- Tap “Braille screen input” to make sure it is enabled.
- Tap the back button in the upper left corner of the screen.
- Tap “Braille” in the main VoiceOver settings screen.
- Change the “Braille screen input” setting to either contracted or uncontracted Braille, whichever is appropriate for the learner.
- Tap the “Back” button in the top left corner of the screen.
- Under the “Braille” options choose the code the learner uses. Unified English Braille (UEB) is the default.
- Braille screen input is ready to use.

Why Should You Learn to Use Braille Screen Input?

- It is a faster method than touch typing.
- It is a more private and reliable method of input than dictation.
- You can enter passwords with total privacy.
- You can open apps from your home screen.
- You can quickly and easily navigate web pages.

What should I Consider Before Using Braille Screen Input?

Because you will be using your iPhone in a way that is abnormal, those around you may be curious to watch what you are doing. For this reason, if the information you are typing is private, you may wish to consider using the screen curtain in public areas.

- Turn screen curtain on by triple-tapping the screen with three fingers. VoiceOver says, “Screen curtain on”.

- To turn screen curtain off, triple-tap the screen with three fingers. VoiceOver says, "Screen curtain off".

Activating Braille Screen Input

Have the learner practice the following procedure for turning on and off Braille screen input.

- Turn the rotor until VoiceOver says, "Braille Screen Input". VoiceOver then announces the orientation of the keyboard, as well as whether the input is contracted or uncontracted.
- To turn Braille screen input off, turn the rotor again, or use the two-finger scrub gesture. VoiceOver will say "Portrait".

Switching Orientations

Have the learner activate Braille screen input, and then:

- Place the device flat to enter tabletop mode. VoiceOver will say, "Tabletop Mode".
- To enter screen away mode, hold the device so that the back is to you and the screen is away. VoiceOver will say, "Screen away mode".

With the exception of iPads, all orientations for Braille screen input are landscape orientations, meaning that the device is turned sideways. If VoiceOver hints is enabled, VoiceOver will announce in which direction the home button is facing (See the "Memorandum" section of this guide to learn about enabling VoiceOver hints). On iPads, there is a portrait tabletop mode (See the "Memorandum" section of this lesson to learn about portrait tabletop orientation).

The differences in orientations

In tabletop orientation, the dots go across the screen in a fashion similar to a traditional Braille writer. On standard devices, the user will need to make a V-shape with their hands to reach the dots. On plus-sized phones or iPads, the user's fingers can go directly next to each other.

In tabletop mode, the dots are arranged vertically in two columns of three. This is consistent for all devices.

Finding the Dots

Have the learner activate Braille Screen input, and then try the following in each orientation.

- Place one finger on the screen, and hold it there. VoiceOver will beep three times and say, "In exploring mode. Dot x.", where x is the number of a Braille dot one through six.
- Place a second finger. Pay attention to what dot voiceOver announces.

- Place a third finger.
- Lift the three fingers you have placed, then use the other hand to find the remaining dots.
- Alternatively, place only one finger on the screen, then slide it around to hear the different positions of the dots.

Correct Fingering

- Left index finger=dot 1.
- Left middle finger=dot 2.
- Left ring finger=dot 3.
- Right index finger=dot 4.
- Right middle finger=dot 5.
- Right ring finger=dot 6.

First Practice

Have the learner open the Notes app, create a new note, and type the alphabet.

Word Practice

The teacher will go over the gestures for this section below the exercise for the learner before beginning. Have the learner open the notes app, create a new note, activate Braille screen input, and then type the following words.

- Jock
- Label
- Rabbit
- Taped
- Forest

If the learner is using contracted Braille, the word “forest” may be giving them some difficulty. Explain to the learner that this is because an iPhone can only register five fingers on the display at a time. To type the “for” contraction in “forest”, do the following:

- Place your fingers as if you were brailleing the letter q (dots 12345).
- Lift the finger in the dot 5 position, and place a finger in the dot 6 position.
- Lift all fingers to enter the “for” contraction.

Gestures for this Section

- One-finger swipe right=Insert space.
- One-finger swipe left=Erase last typed character.
- Two-finger swipe right=Insert line break.
- Two-finger swipe left=Erase last typed word.

Sentence Practice

The teacher will go over the gestures for this section below the exercise, and. If necessary, review the gestures from the “Word Practice” section before beginning. Have the learner open the Notes app, create a new note, and then type the following sentences with each sentence on its own line.

- Hello, my name is ____.
- My phone number is ____.
- My e-mail address is ____.
- My favorite animal is ____.
- My favorite color is ____.

Gestures for this section.

- Two-finger flick down=translate typed word without inserting a space (immediate translation).
- Three-finger flick left or right=switch between contracted and uncontracted Braille.

A Word About typing email and web addresses

While some Braille codes make for easy typing of web and e-mail addresses, it is often easier to do these in uncontracted Braille. This is why this gesture is presented in the section where the learner is required to type their email address. This is also a good idea for entering complex passwords.

Finding Spelling Suggestions

Have the learner open the Notes app, create a new note, activate Braille screen input, and try the following:

- Type the word dog.
- Flick up or down with one finger to hear alternative suggestions. Examples should include but not be limited to Jog and dogs.
- Simply insert a space, line break, or punctuation to choose the suggestion.

Opening Apps

To open apps using Braille screen input, have the learner do the following:

- Go to the home screen.
- Activate Braille screen input. VoiceOver will announce the orientation, that input is set to uncontracted Braille, and x number of apps, where x is the number of apps currently installed on the device.

- Type the letter n. VoiceOver will announce the first app it finds that begins with n, as well as how many apps begin with n that are currently installed on the device.
- Flick up or down with one finger until VoiceOver says “Notes”. Alternatively, keep typing the word notes until VoiceOver announces the app.
- Perform a two-finger flick right to open the Notes app.

Navigating Web Page Elements

Have the learner open Safari, go to the webpage of their choice, and do the following:

- Activate Braille screen input.
- Type the letter of a desired element, similar to using JAWS. Here are some common examples.
 - h=heading
 - b=button
 - e=edit box.
- Flick down with one finger to move forward by that element, or up to move backward.
- Deactivate Braille screen input to read the web page normally.

Evaluation

Has the learner performed the activities according to the criteria in the “Objectives” section?

Assignment

Have the learner perform the following tasks.

- Send an email.
- Send three text messages.
- Write a short paragraph about a topic of interest to them.

Memorandum

- To enable or disable VoiceOver hints, do the following:

- Go to Settings\General\Accessibility\VoiceOver.
- Tap “Verbosity”.
- Change the “Speak VoiceOver hints” option to meet the learner’s needs.
- When browsing web pages, if a text field has been activated, first letter navigation will not work. Deactivate the text field to fix this.
- While Braille screen input works well with native iOS apps, some third-party apps do not let the feature function as expected. If this is the case, submit feedback to the app developer to ask them to fix the issue.
- As of iOS12, two new gestures have been added.
 - Two-finger swipe up=switch between available keyboards, like standard and emoji.
 - Three-finger swipe up=performs the primary action associated with the currently activated text field, like sending a text message.
- This guide was written in 2018. For the latest developments on this feature, see [Apple's official documentation on this topic.](#)