

# **SETTINGS FOR IPAD**

## **ACCESSIBILITY FEATURES**

### **IOS 9.3**

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*The Introduction to iPad Accessibility Features for Blind and Low Vision Students* manual is being shared on the *Paths to Technology* website with permission from SAS Institute Inc.



# Introduction to iPad Accessibility Features for Blind and Low Vision Students

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## Chapter 1: Settings for iOS 9.3

These settings specifically address the needs of students who are visually impaired or blind in mainstream classrooms.

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- 1.2 Update iOS software
- 1.3 Siri
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## Overview

The iPad is intended to be a personal device – used by one person. The iPad has a variety of settings to maximize the individual user’s success. Each person can customize his/her iPad by choosing a unique combination of settings that best suits his/her individual needs.

This chapter *Settings for iPad Accessibility Features* has been created specifically to be used in conjunction with the iPad Accessibility trainings for Teachers of the Visually Impaired provided through SAS; however, this guide is beneficial for anyone interested in iPad accessibility settings. For more information about these trainings and for additional resources, contact [dianebrauner@me.com](mailto:dianebrauner@me.com)

These SAS iPad Accessibility manuals – both the full manuals and portions of the manuals - are being shared with permission on the *Paths to Technology* website.

There are also YouTube video clips that accompany these iPad accessibility trainings and corresponding manuals: “iPad Accessibility for Blind and Low Vision Students”, “Bluetooth Keyboard Commands with VoiceOver on the iPad” and “Using a Refreshable Braille Display with the iPad”. The Youtube channel is organized by these playlists: iPad Accessibility for Teachers of the Visually Impaired, High Tech O&M, Bluetooth Keyboarding with VoiceOver on the iPad and Using a Refreshable Braille Device with an iPad. These videos can be found on Diane Brauner’s YouTube channel:

<https://www.youtube.com/channel/UCSsHoghKRJ8VEm7U1s7KKjg>

Select playlist and then choose the desired playlist to view all the videos related to the desired playlist topic.

We recommend for each training participant to initially establish the same iPad settings so that all the iPads used in the training will react in same fashion and so that anyone using the manuals can follow the activities successfully. These settings are the most common settings used by students with visual impairments and blindness. *After* the training, you may choose to change the settings as needed to maximize a specific student’s success. There are a few differences between various iPad generations. These differences will be discussed in this manual.

## Training Hints

When initially teaching a student with visual impairments to use the iPad, it is crucial to teach the student to learn the spatial layout of the iPad. One major advantage of the touch screen tablet is the spatial layout. The student will learn the basic layout by dragging his/her finger around the screen. There are shortcut commands to jump quickly to the first or last item on the screen, to jump by containers, etc. If a student randomly taps around the screen or if the student consistently flicks through the screen, he will not be able to take advantage of the spatial layout.

Many educational apps have either a full screen layout (such as Pages) or a one-third, two-thirds layout (such as Mail). Be sure to specifically teach the student to identify the general layout of every app.

The Tool bar(s) also provide critical information about the app. Most apps have a Tool bar at the top of the screen (directly under the Status bar and/or a Tool bar at the bottom of the screen. In apps such as Settings, the Tool bar provides information about where you are in the app and what screen the Back button will take you back to. The Tool bar may provide your setting options, help button, and/or actions you can do with the app. Example: In the Mail app, the left one-third is the list of received emails. The Tool bar above this list includes the back button “mailbox”, tells you where you currently are “all inboxes” and the Edit button. The Tool bar on the right two-thirds - above the opened email – contains Previous Message button, Next Message button, Mark Message button, Move button, Delete button, Reply button, Compose button.

Understand the spatial layout, the Tools bars, and the gestures/commands significantly impacts the student’s ability to efficiently and successfully use the iPad.

The information below goes through the iPad accessibility features, which provide options for students with visual impairments and blindness. These accessibility features can be selected in the Settings App available on the iPad, iPhone and iPod Touch.

For more training hints, go to the *Paths to Technology* post, [Getting Started with VoiceOver on the iPad.](#)

**This section is located in Settings > Wi-Fi.**

## **1.1 Connect Wi-Fi**

Many schools and businesses have guest Wi-Fi access allowing you to access free Internet. Once you have joined an open network, your iPad will automatically join that network each time you are within range. If no networks automatically appear, manually select a network. Some Wi-Fi networks will be locked; these locked networks are indicated by the lock symbol. You will need a password to join a locked network.

To choose a network, go to Settings > Wi-Fi > Choose a Network and check the desired network. If necessary, type the password to join a locked network.

Note: the Wi-Fi slider must be “on”; if the Wi-Fi slider is “off”, available networks will be hidden.

**We will need Wi-Fi for this training.**



This section is located under Settings > General.

## 1.2 Update iOS Software

Apple iPads, iPad Minis, iPhones, and iPod Touches use the same operating system software called “iOS”. As a consequence, most aspects of the user interface for all of those devices are identical.

Please make sure that your iPad is updated to the latest iOS version. This manual is currently using iOS 9. If your iPad needs to be updated, there will be a small red “1” displayed on the Settings icon. **Do NOT update your software or apps during this training! Prior to updating, be sure to back up your device.**

To back up your device, go to Settings > iCloud > Storage & Backup.

Note: The iPad 1 can only be updated to iOS 5.

To view or update your software, go to Settings > General > Software Update.

**During this training, we will use the latest version of iOS 9.**

It is critical that iPads are up-to-date with the latest iOS software and that **all apps** used in the training are up-to-date. *We recommend that school owned iPads used by students have an established system for updating student iPads on a monthly basis with the option to update as often as needed.* If apps are out of date, glitches will appear, especially when using VoiceOver. Often the smaller updates, such as 9.1 to 9.2 will fix issues, including VoiceOver issues.

## 1.3 Siri

Siri is a voice activated personal assistant within the iOS devices. Siri can answer verbal questions, make recommendations and perform tasks. With Siri, students can verbally send messages, schedule meetings, place calls, read emails, and search the Internet for answers. Siri must have an Internet connection in order to work. Siri is available on the iPad 3 and new generations; Siri is not available on the iPad 1 or iPad 2. Siri is available starting with the iPhone 4S and the 5<sup>th</sup> generation iPod Touch.

**TEACHER HINT: SIRI CAN HELP STUDENTS WITH VIB TO QUICKLY PERFORM A VARIETY OF TASKS; HOWEVER, PLEASE BE AWARE THAT SIRI CAN ALSO BE USED TO ANSWER HOMEWORK QUESTIONS!**

To turn Siri on/off, go to Settings > General > Siri.

Students can opt to speak to Siri by saying, “Hey Siri”, without pressing the Home button.

**TEACHER HINT: SIRI IS OFTEN BENEFICIAL FOR STUDENTS WITH VIB AND WHO ALSO HAVE PHYSICAL ISSUES.**

### *“Hey Siri”*

“Hey Siri” only works when the iPad or iOS device is plugged into electricity. You can now choose your Siri language, the Siri Voice, when to have Voice Feedback and add your information.

To turn “Hey Siri” on/off, go to Settings > General > Siri > Allow “Hey Siri”.

**During this training, we will turn Allow “Hey Siri” ON.**

## 1.4 Spotlight Search/Siri Suggestions

The Spotlight Search became more robust and intuitive in iOS 9. Drag down from the middle of the Home screen to Search (type what you are looking for) or to view Siri's app suggestions. Drag right from the Home Screen to show Search or to view Siri's suggestions, which include contacts, apps, nearby locations and news. In Settings, you can choose which apps to include in Siri's Suggestions.

You can view Siri Suggestions with iPhone 5 and later, iPad Pro, iPad (4<sup>th</sup> generation) and later, iPad mini (second generation) and later, and iPod Touch (6<sup>th</sup> generation).

To turn Siri Suggestions on/off or to choose/limit suggested apps, go to Settings > General > Spotlight Search.

**During this training, we will turn Siri Suggestions ON.**

## 1.5 Multitasking Gestures

“Multitasking Gestures” are four or five-finger gestures that easily allow you to:

- Pinch to Home screen
- Swipe up to reveal the Task bar (VoiceOver calls it the “App Switcher”)
- Swipe left or right between open apps

To turn on Multitasking gestures, go to Settings > General > Multitasking Gestures and move the slider to ON.

**During this training, we will turn Multitasking Gestures ON.**

TEACHER HINT: IF YOU ARE USING THE IPAD WITH STUDENTS WHO HAVE MULTIPLE DISABILITIES, TURN MULTITASKING GESTURES OFF. FREQUENTLY THESE STUDENTS WILL ACCIDENTLY BRING UP THE TASK BAR IN THE MIDDLE OF AN IPAD ACTIVITY (FOUR FINGER SWIPE UP) OR THEY WILL ACCIDENTLY SWITCH TO ANOTHER OPEN APP (FOUR FINGERS SWIPE LEFT OR RIGHT).

Note: The iPhone does not support multitasking gestures. However, you can open the Task Bar by double-clicking the Home button.

## 1.6 Side Switch: Lock Rotation/Mute

There is a slider button on the outer edge of the iPad. When the Home button is on the right, the slider button is on the top edge (off the screen) on the left side of the iPad. You can choose the function of this button: mute/unmute all sounds or lock/unlock the iPad's rotation.

If the "Lock Rotation" setting is selected, the iPad does/does not allow the iPad to rotate between portrait and landscape modes. Students with VIB may not hold their iPad flat, causing the iPad to tilt. When the iPad is tilted, the screen image may flip upside down, changing the location of buttons and the spatial layout. Most students who are blind prefer that the screen rotation to be locked. When Lock Rotation is selected and the button on the top left edge of the iPad is moved left or right, the Lock or Unlock symbol appears briefly on the screen and VoiceOver will say, "Orientation Lock/Orientation Unlock".

Note: Some apps automatically lock the screen orientation.

If the "Mute" setting is selected, the iPad is/is not muted. When muted, only certain sounds (alerts, notifications, typing clicks, sound effects, game audio) are muted; media playback (music, podcasts, movies, videos) are **not** muted. It is critical that Mute is left in the ON position, as this allows students with visual impairments to hear additional sounds and alerts when VoiceOver is On. VoiceOver uses many little "clicks" - such as when typing letters or when dragging your finger across empty space on the screen. When the iPad is Muted, then these important sound clues disappear. When Mute is selected and the button on the top left edge of the iPad is moved left or right, the bell symbol (Mute on/off) appears briefly on the screen and VoiceOver says, "Mute/Unmuted".

To select your Side Switch preference, go to Settings > General > Use Side Switch to: (check Lock Rotation or Mute).

**During this training, we will set the Side Switch to Lock Rotation.**

**TEACHER HINT: TEACHERS, WHO PERSONALLY USE AN IPAD IN SCHOOLS, MAY WANT TO SET THE SIDE SWITCH TO MUTE SO THAT THEY CAN QUICKLY TURN OFF SOUNDS WHEN THEY ARE IN CLASSROOMS, TO KEEP STUDENTS FROM BEING DISTRACTED BY THE TYPING CLICKS, EMAIL PINGS, ETC.**

## 1.7 Storage & iCloud Usage

This section informs you of the amount of storage - on the iPad and the amount of storage in the corresponding iCloud - you have used, how much storage is available and provides access to manage your storage. Selecting Manage Storage will show each app and how much storage has been used in each app.

Note: Each device (iPad, Mac, iPhone, iPod) that shares an Apple ID will share the same iCloud account.

To view your storage and iCloud usage, go to Settings > General > Storage and iCloud Usage.

**During this training, we will not make changes to the storage.**

## 1.8 Auto-Lock

The iPad default setting is to Auto Lock after 2 minutes of inactivity. The iPad will automatically turn off the display and lock the touch screen. On the iPad, the Auto-Lock options are 2 minutes, 5 minutes, 10 minutes, 15 minutes or never. On the iPhone, the Auto-Lock options are 1 minute, 2 minutes, 3 minutes, 4 minutes, 5 minutes, or never. If you select “never” you are at risk of draining your battery.

To change your Auto-Lock, go to Settings > General > Auto-Lock and check your desired time preference.

**During this training, we will set Auto-Lock to 15 minutes.**

## 1.9 Enable Restrictions

Parents (on personal iPads) or teachers (on school iPads) can restrict access to specific features and applications. When Enable Restrictions is activated, a passcode popup appears and there are a variety of restriction options that can be chosen.

**NOTE: When setting up the four-digit passcode, be sure to use a different passcode than the one used to unlock the iPad!**

The following items can be restricted:

- You can restrict specific apps and along with specific features within some apps (i.e. Face Time, iTunes Store, installing/deleting apps).
- You can restrict specific content types (i.e. music, TVI shows, Websites).
- You can prevent changes to privacy settings (i.e. location services, photos, Facebook).
- You can prevent changes to specific settings and accounts (i.e. Find My Friends, Cellular Data Use).
- You can restrict features within Game Center (i.e. adding friends, Multiplayer games).

You have options when selecting items (i.e. restricting movie ratings by Universal, PG, age 12, 15, 18 or allow all films). These same restrictions will apply to iTunes movies, music, podcasts and TV shows. Apps within the App store are all given an age rating based on content (i.e. apps can be restricted by Don't Allow Apps, 4+, 9+, 12+, 17+, Allow All Apps). Restrictions or Parental Control is a new feature in iOS 8.

There are options to allow or block a website. You can also select Specific Websites Only.

To restrict or add websites, go to Settings > Restrictions > Enable Restrictions (turn ON) > Websites to see all the website options.

If a website is blocked, a popup will appear. You can tap Allow Website and then type in the Restriction passcode and add that current website to the approved website list.

Schools have the option of installing a profile to universally restrict school-owned devices.

**NOTE: If the restriction password is forgotten, a factory restore is required in order to remove the passcode restriction.**

To access Restrictions, go to Settings > Restrictions > Enable Restrictions.

**During this training, we will not enable restrictions.**



## 1.10 Keyboard

### *On-Screen Keyboards*

iOS 8 introduces a number of new options for the on-screen keyboard. In the US, we typically use the QWERTY keyboard. Other options include AZERTY and QWERTZ keyboard layouts. You can also go to Add New Keyboard and select from a variety of iPad keyboards. The standard keyboard used in US schools is the English QWERTY keyboard.

To select the desired keyboard style, go to General > Keyboards > Keyboards > English > QWERTY.

**During this training, we will use the QWERTY keyboard.**

You have the option of adding additional keyboard languages. When you add a keyboard language, you can quickly switch between your normal language to your second chosen language by holding the Next Keyboard (picture of the world globe which is located to the left of the dictation key on the on-screen keyboard and located on the top row of most Bluetooth keyboard). A popup will appear with the options to turn on/off Predictive (word prediction), English (US) and your second chosen language. This will enable you to type in another language and the iPad will not say the words are misspelled. The prediction words will include words in your chosen language. For example, if you choose Chinese and then type, your words will appear as a mixture of English and Chinese; some words that translate directly will be translated into Chinese symbols and VoiceOver will say those words in Chinese. Other words will stay in English. If you change the language again, the printed words/characters do NOT change – they will stay the same as when you typed the words.

*If your Bluetooth keyboard does not have the Language key, you can use **cmd + space** (hold command key then press the space bar) to change the language options.*

**TEACHER HINT: UNLESS A STUDENT NEEDS A SECOND LANGUAGE, ONLY SELECT ONE LANGUAGE. MANY STUDENTS BECOME FRUSTRATED IF THEY ACCIDENTLY SWITCH TO ANOTHER LANGUAGE.**

**PROBLEM SOLVING: IF YOUR TEXT HAS NUMEROUS RED LINES UNDER WORDS THAT ARE SPELLED CORRECTLY, CHECK TO MAKE SURE THAT YOU YOUR “NEXT KEYBOARD” BUTTON IS SET TO ENGLISH US. THE NEXT KEYBOARD BUTTON HAS THE PICTURE OF THE WORLD GLOBE WHICH IS THE SECOND BUTTON TO THE LEFT OF THE SPACE BAR ON THE ON-SCREEN KEYBOARD. MOST BLUETOOTH KEYBOARDS ALSO HAVE THE NEXT KEYBOARD KEY WITH THE WORLD GLOBE SYMBOL LOCATED IN THE TOP ROW OF KEYS.**

## *Shortcuts*

You can create shortcuts for commonly used phrases. When on the Shortcut screen, tap the Add Button in the top right corner. Type in the desired phrase and the desired Shortcut. When you type the shortcut, it will automatically expand into the word or phrase as you type. (Example: “omw” will expand to “on my way”.)

**TEACHER HINT:** SHORTCUTS MIGHT BE HELPFUL FOR STUDENTS WHO HAVE PHYSICAL DISABILITIES OR ARE SLOW TYPERS.

To select the desired shortcuts, go to General > Keyboards > Shortcuts

**During this training, we will not set any shortcuts.**

## *Split Keyboard*

Split Keyboard: you can “split” the keyboard making it easier to type with your thumbs when the iPad is in portrait mode. To split the keyboard, place two fingers and pull them apart. To gather the keyboard use two fingers on the screen and pull them together.

**TEACHER HINT:** STUDENTS WITH VISUAL IMPAIRMENTS ARE OFTEN CONFUSED WHEN THE KEYBOARD ACCIDENTLY SPLITS. UNLESS THE STUDENT IS AN ADVID THUMB TEXTER, IT IS RECOMMENDED TO TURN SPLIT KEYBOARD **OFF**.

To turn on/off the Split Keyboard, go to General > Keyboards > Split Keyboard.

**During this training, we will turn Split Keyboard OFF.**

## *“.” Shortcut*

Double tapping the space bar will automatically insert a period followed by a space.

To select “.” Shortcut, go to General > Keyboards > “.” Shortcut.

**During this training, we will turn “.” Shortcut ON.**

### ***Enable Dictation***

Dictation is a powerful tool for students with visual impairments, especially if the student also has motor issues.

TEACHER HINT: WHEN VOICEOVER IS ON AND THE VOICEOVER CURSOR IS ACTIVATED IN A TEXT FIELD, USE A TWO FINGER DOUBLE TAP TO START/STOP DICTATION. IOS 9 ADDED THE EQUIVELENT RBD COMMAND (1+5+6+SPACE).

To select Dictation, go to General > Keyboards > Enable Dictation.

**During this training, we will turn Enable Dictation ON.**

### ***Auto-Capitalization***

Auto-Capitalization means that the beginning of the sentence, proper names, etc. will automatically be capitalized.

Auto-Correction means that when possible, a misspelled word will automatically be corrected.

TEACHER HINT: AUTO-CORRECTION MUST BE TURNED ON IN ORDER FOR THE SPELLING REPLACEMENT POPUP BOX TO APPEAR .

### ***Auto-Correction***

This setting allows you to stop words from being auto-corrected. For some student with visual impairments auto-correction can be frustrating.

TEACHER HINT: AUTO-CORRECTION MUST BE TURNED OFF DURING SPELLING TESTS!

### ***Check Spelling***

Check Spelling is an automatic spell checker.

TEACHER HINT: AUTO-CORRECTION MUST BE TURNED OFF DURING SPELLING TESTS!

### ***Enable Caps Lock***

Toggles Caps lock on or off.

### ***Predictive***

As you type, you will see choices of words or phrases, based on what you have previously typed. When you type texts, the phrases will be brief and to the point. Predictive typing learns your style.

TEACHER HINT: VOICEOVER USERS OFTEN PREFER TO TURN PREDICTIVE OFF.

To set the keyboard options, go to Settings > General > Keyboards

**In this training, turn ON Auto-Capitalization, Auto-correction, Check Spelling, Enable Caps Lock, Predictive, “.” Shortcut and Enable Dictation. Turn Split Keyboard OFF.**

## 1.11 Language & Region

### *iPad Language*

Users have the option of changing the iPad's language (including text and VoiceOver's spoken language) to a number of different languages. Apps must support the desired language or that specific app will stay in English – not all apps support different languages!

When you change the language, EVERYTHING on the iPad changes, including ALL the text – even the printed text located below the app symbols. VoiceOver will speak in whatever language has been selected. The iPad will take a short time to convert everything to the newly selected language.

To see the long list of language options, go to Settings > General > Language & Region

**Warning: Do not change the language unless you understand enough of the new language in order to change the settings back to English!**

You have the option of adding a second language and you can select your preferred language order.

The iPad comes with a Varsity of language options and regional language options.

To set the language options, go to Settings > General > Language & Region

**In this training, we will use English and United States as the Language and Region options.**

### *Calendar*

The iPad has three calendar options: Gregorian, Japanese and Buddhist.

To set the Calendar options, go to Settings > General > Language & Region > Calendar.

**In this training, we will use Gregorian calendar option.**

This section is located under Settings > General > Accessibility.

## 1.12 Invert Colors

Invert colors is an accessibility feature, which is especially beneficial for students who experience light sensitivity, glare issues and/or for some students with color blindness. Invert colors changes the normal white background to a black background, which helps to reduce the glare. Invert colors can be added to the Triple Click Home so that users can easily turn invert colors on or off.

To turn Invert Colors on or off in Settings, go to General > Accessibility > Invert Colors.

**During this training, we will turn Invert Colors Off in settings; however, in section 1.30 we will add Invert Colors as an Accessibility Shortcut (Triple Click Home).**

TEACHER HINT: MANY STUDENTS WITH RP PREFER INVERT COLORS.

TEACHER HINT: DO NOT ADD INVERT COLORS TO TRIPLE CLICK HOME IF THE STUDENT IS TOTALLY BLIND.

## 1.13 Grayscale

Some students with visual impairments – often students with color blindness – prefer to disable colors that make the display hard to see. Grayscale converts the screen to shades of grey, black and white only.

To turn Grayscale on or off in Settings, go to General Accessibility > Grayscale.

**During this training, we will turn Grayscale off in settings; however, we will add Grayscale as an Accessibility Shortcut (Triple Click Home).** See section 1.30 Accessibility Shortcut.

TEACHER HINT: DO NOT ADD GRAYSCALE TO TRIPLE CLICK HOME IF THE STUDENT IS TOTALLY BLIND OR IF THE STUDENT DOES NOT BENEFIT FROM GRAYSCALE.

This section is located under Settings > General > Accessibility > Speech

## 1.14 Speech

### *Speak Selection*

When you select text, the Speak option will appear in the popup; the selected text will then be spoken aloud in English with an accent of your chosen language. NOTE: The text is not translated into another language.

To turn Speak Selection on/off, go to Settings > General > Accessibility > Speech > Speak Selection.

**During this training, we will turn Speak Selection on.**

TEACHER HINT: IF A STUDENT ALWAYS USES VOICEOVER, YOU CAN TURN SPEAK SELECTION OFF.

### *Speak Screen*

If you have a hard time reading the text on your iOS device, use Speak Screen to read you email, iMessages, web pages, and books to you. This is a simple way to have the screen read out loud without using VoiceOver. *From the top of the screen*, use a two-finger swipe down or tell Siri, “Speak screen” and all the content on the screen is read aloud. A popup will appear with these options:

Move popup to the side (arrow symbol), slow speaking speed (turtle symbol), rewind, pause/play, fast forward, speed up (rabbit symbol), dismiss popup (x symbol).

The popup will automatically condense to become a greyed out arrow button at the left side of the screen.

TEACHER HINT: SPEAK SCREEN IS A SIMPLE TOOL FOR LOW VISION STUDENTS WHO ARE LEARNING TO USE VOICEOVER AND VOICEOVER GESTURES OR WHO NEED A QUICK SELECTION READ OUTLOUD; HOWEVER, MOST LOW VISION STUDENTS WHO NEED MAGNIFICATION OR WHO CANNOT SUSTAIN READING, WILL BENEFIT FROM USING VOICEOVER. SPEAK SCREEN IS NOT INTENDED TO REPLACE VOICEOVER.

Speak Screen only works in specific apps. Speak Screen does not work on the Home Screen.

To turn Speak Screen on or off, go to Settings > General > Accessibility > Speech > Speak Screen

**During this training, we will turn Speak Screen on.**

TEACHER HINT: IF A STUDENT ALWAYS USES VOICEOVER, YOU CAN TURN SPEAK SCREEN OFF.

### *Voices*

The Voice option (under Accessibility > Speech > Voices) is an option tied directly to Speak Selection and/or Speak Screen. You have options to select various voices (such as Chinese).

Note: These voices do NOT automatically translate the selected text to a different language; these voices will speak the English words with an accent. (Example: If Chinese is chosen, then the selected text will be read using English words with a Chinese accent.)

To choose a Voice, go to Settings > General > Accessibility > Speech > Voices

**During this training, we will not select a Voice.**

### *Speaking Rate*

Adjust the speaking rate. The left side is slow (turtle symbol) and the right side is fast (rabbit symbol).

To adjust the speaking rate, go to Settings > General > Accessibility > Speech > Speaking Rate and adjust the slider.

**During this training, we will set the speaking rate in the middle of the slider approximately 50%.**

### *Highlight Content*

Another new option in iOS 8 is the ability to highlight the content as it is spoken. Highlight content only works when VoiceOver is off. Some apps, such as Read2Go, do have the built-in option of highlighting words while VoiceOver is on.

To turn Highlight Content on or off, go to Settings > General > Accessibility > Speech > Highlight Content.

**During this training, we will turn Highlight Content on.**



### *Speak Auto-Text*

Auto-text option alerts you when you have made a typing/spelling error and/or capitalization error and then predicts what you are trying to type. When you misspell a word then hit the space bar, the correct spelling will replace what you have entered. **Speak Auto-Text** will verbally state when there is an error.

TEACHER HINT: THERE ARE TIMES THAT YOU WILL WANT TO TURN THIS FEATURE OFF (SUCH AS WHEN A STUDENT IS TAKING A SPELLING TEST!) IF A TEACHER IS USING AN IPAD (WITHOUT VOICEOVER) IN A CLASSROOM, SPEAK AUTO-TEXT MAY BE DISTRACTING AS IT WILL VERBALIZE MISPELLED WORD AS THE TEACHER TYPES.

To turn Speak Auto-text on or off, go to Settings > General > Accessibility > Speech > Speak Auto-text.

**During this training, turn Speak Auto-Text on.**

**This section is located under Settings > General > Accessibility**

## **1.15 Larger Text**

In iOS 8, the iPad allows you to increase the text size from approximately 8-point font to 28-point font. The tick mark just to the left of the middle A (on the slider) is approximately 12-point font.

The large text works with alerts, Calendar, Contacts, Mail, Messages and Notes. Some apps such as Pages and iBooks have settings within the app that enable users to increase the font size.

Reading small print in email and text message is frequently an issue for low vision students as well as for older adults. Changing the iPhone settings to a larger print size allows people – including seniors - to easily read their email/text messages without magnifying the entire app or require learning another set of gestures.

To change the print size, go to Settings > General > Accessibility > Large Text, turn Dynamic Type On then select your preferred text size.

**During this training, select 12-point font or select your preferred text size.**

## 1.16 Bold Text

Bold Text adapts according to the background color. If the background color is light, the bold text will become darker. If the background is dark, the text will become lighter. If the background is in between light and dark, the text will default to white.

Activating Bold Text will require rebooting the iPad.

To turn Bold Text on or off, go to Settings > General > Accessibility > Bold Text. This change requires reboot your iPad to apply the bold text. A popup appears asking if you want to cancel or restart.

**During this training, we will turn Bold Text on.**

## 1.17 Button Shapes

This option is designed to make buttons easier to distinguish from text.

Turn Button Shapes on or off, go to Settings > General > Accessibility > Button Shapes.

**During this training, we will turn Button Shapes on.**

This section is located under Settings > General > Accessibility > Increase Contrast

## 1.18 Increase Contrast

Increase Contrast is an option to improve visual contrast with some backgrounds. Often students with visual impairments are not able to verbalize whether these accessibility features are beneficial. For the majority of students who have some functional vision, these features should be turned on.

### *Reduce Transparency*

Reduce Transparency will improve contrast on some backgrounds to increase legibility.

To turn Reduce Transparency on or off, go to Settings > General > Accessibility > Increase Contrast > Reduce Transparency

**During this training, we will turn Reduce Transparency on.**

### *Darken Colors*

To turn Darken Colors on or off, go to Settings > General Accessibility > Increase Contrast > Darken Colors

**During this training, we will turn Darken Colors on.**

### *Reduce White Point*

Reducing the white point will reduce the intensity of bright colors. For many students with low vision, bright white screens or popups “white out” the text or images.

To turn Reduce White Point on or off, go to Settings > General Accessibility > Increase Contrast > Reduce White Point

**During this training, we will turn Reduce White Point on.**

This section is located under Settings > General > Accessibility

## 1.19 Reduce Motion

iOS 7 added parallax and zooming effects - animation and movement features . For some people, this movement is causing motion sickness. The Reduced Motion option minimizes the animation and movement features.

**TEACHER HINT: MANY STUDENTS WITH VISUAL IMPAIRMENTS – ESPECIALLY STUDENTS WITH NYSTAGMUS – ARE IMPACTED BY THE MOTION; OFTEN THESE STUDENTS DO NOT VERBALIZE THAT THIS MOTION IS AN ISSUE. IT IS RECOMMENDED TO TURN REDUCE MOTION ON FOR ALL YOUR STUDENTS.**

To turn Reduce Motion on or off, go to Settings > General > Accessibility > Reduce Motion.

**During this training, we will turn Reduce Motion ON.**

## 1.20 On/Off Labels

On/off labels adds the more visible “1” and “0” to the standard white or green labels. Adding this text to the buttons give low vision or color blind students more information to determine if the button is on or off.

To turn On/Off Labels on or off, go to Settings > General > Accessibility > On/Off Labels

**During this training, we will turn On/Off Labels On.**

## 1.21 Switch Control

There are three main accessibility features specifically for students with physical issues: Switch Control, Assistive Touch and Touch Accommodations are three physical options. There are *numerous* options in settings for switches; Switch Controls require apps that have been created to be compatible with Bluetooth Switches.

To select the desired Switch Control options, go to Settings > General > Accessibility > Switch Control.

**During this training, we will leave Switch Control Off.**

## 1.22 AssistiveTouch

Assistive Touch enables a student to use his/her iPad even when there are physical challenges. Assistive Touch allows the student to create custom gestures to control the iOS device, including the ability to perform many actions with only one finger. Assistive Touch now allows a sequence of combined gestures (such as drawing a circle) to be used to perform an action. You can customize the toplevel menu and customize and record your own gestures.

To select the desired AssistiveTouch options, go to Settings > General > Accessibility > AssistiveTouch.

**During this training, we will leave AssistiveTouch Off.**

## 1.23 Touch Accommodations

iOS 9 has expanded the Touch Accommodations for students who have trouble using the touch screen. Students can now change how the screen will respond to touches.

### *Hold Duration*

Turning on Hold Duration enables you to select the number of seconds you must touch the screen before a touch is recognized. The range is .10 seconds – 4.0 seconds with the default duration of .10 seconds.

### *Ignore Repeat*

The duration in which multiple touches are treated as a single touch. This is for students who touch the screen several times quickly and have trouble touching the screen just once. When Ignore Repeat is turned on, you can select the number of seconds in which multiple touches are treated as a single touch. The range is .10 seconds to 4.0 seconds with the default duration of .10 seconds.

### *Tap Assistance*

If you touch the screen at the place you want but your finger drags to a different location before you can make a selection, turn on Tap Assistance and Use Initial Touch Location.

If you have trouble touching the screen at the desired place, but you can drag to that desired place from another location, turn on Tap assistance with the Use Final Touch Location.

With an iPhone 6s or 6s Plus, Tap Assistance works with 3D Touch. Your device will respond to your first or final touch, light or firm.

To select the desired Touch Accommodations options, go to Settings > General > Accessibility > Touch Accommodations.

**During this training, we will leave Touch Accommodations Off.**

## 1.24 Keyboard (under Accessibility)

iOS 9 has added additional keyboard options. These options are available when using a Bluetooth keyboard.

### *Key Repeat*

This option enables you to prevent characters being entered multiple times with a single key press. You can select the Key Repeat interval (default is .10 seconds) and delay until repeat (default is .40 seconds).

### *Sticky Keys*

Turn on Sticky Keys enables you to press one key at a time instead of pressing these keys simultaneously, allowing you to use modifier keys without having to hold the key down. When activated, you can select to press the Shift key five times to toggle Sticky Keys on/off. You can also choose to play a sound when a modifier key is set.

### *Slow Keys*

Turn on Slow Keys to adjust the amount of time between when a key is pressed and when it is activated. This helps to eliminate excess keystrokes.

To select the desired keyboard options, go to Settings > General > Accessibility > Keyboard

**During this training, we will leave Show Lowercase Keys On, Key Repeat Off, Sticky Keys Off and Slow Keys Off.**



## 1.25 Shake to Undo

Shake to Undo is a nice option for an iPhone or iPod Touch. However, many users who place their smaller devices in a pocket may prefer to turn Shake to Undo off so that if the device jiggles in the pocket, this command is not activated.

*TEACHER HINT: DISABLE SHAKE TO UNDO IF AN O&M STUDENT IS USING AN IPHONE RUNNING A GPS APP WITH THE IPHONE IN HIS/HER POCKET!*

*TEACHER HINT: IT IS SUGGESTED TO TURN SHAKE TO UNDO OFF, AS STUDENTS SHOULD NOT BE ENCOURAGED TO HOLD AND SHAKE AN IPAD.*

To toggle Shake to Undo on/off, go to Settings > General > Accessibility > Shake to Undo.

**During this training, we will leave Shake to Undo Off.**

## 1.26 Call Audio Routing

Call Audio Routing determines where the audio will be heard during a phone call or FaceTime conversation. Choices are Automatic, Bluetooth Headset or Speaker.

To select Call Audio Routing, go to Settings > General > Accessibility > Call Audio Routing.

**During this training, we will select Automatic.**

## 1.27 Home Button

This feature enables the user to select the speed required to double or triple tap the Home button. The choices are Default, Slow, Slowest.

**TEACHER HINT: MANY STUDENTS, ESPECIALLY THOSE WITH SLOWER PROCESSING SKILLS OR WITH PHYSICAL ISSUES, OFTEN STRUGGLE WITH DOUBLE CLICKING THE HOME BUTTON QUICKLY. WHEN USING A BLUETOOTH KEYBOARD, THE STUDENT MAY BENEFIT FROM USING THE "HOME" KEY (OFTEN TOP LEFT CORNER KEY) OR IF THE STUDENT USES VOICEOVER, USING VO + H TWICE QUICKLY.**

To select the Home Button speed, go to Settings > General > Accessibility > Home Button.

**During this training, we will select the Home Button Default speed.**

## 1.28 Audio Descriptions

When audio descriptions are available, these descriptions will be played automatically.

To turn Video Descriptions on or off, go to Settings > General > Accessibility > Audio Descriptions.

**During this training, we will turn Audio Descriptions On.**

## 1.29 Guided Access

Guided Access is often used with students with multiple disabilities; however, many schools are using Guided Access when students are taking tests. Guided access temporarily limits the student to one app and the teacher can control which features are available within that app.

iOS 8 has added two new features to Guided Access, including disabling Guided Access with Touch ID with newer generation iPads. Teachers or parents can set a time limit. Once that time limit has expired, the app will not respond until the correct password or fingerprint is entered. Periodically a message will appear displaying the remaining time. The time limit could be a nice feature on a timed test or even to set a time limit for practicing skills such as how many math addition facts are completed in a specific time frame.

To initially turn Guided Access on and off, go to Settings > General > Accessibility > scroll down to Guided Access. Turn on Guided Access. Under Passcode Settings, set your desired Guided Access Passcode. (Do not give this passcode to the student; use a unique password!) Then set the Time Limits and whether to play a sound or have the remaining amount of time spoken. Select whether you want Guided Access settings to be displayed when using Triple-Click Home.

To initiate Guided Access, open the app that you want the student to stay in. Triple-Click Home (press the Home button three times fast); then, select Guided Access. Along the bottom of the screen there are now three buttons: Hardware Buttons, Touch button, and Time Limit button. The Hardware button popup you can turn on/off Sleep/Wake button, Volume button, Motion, and access to the Keyboard. The Touch button enables you to circle areas on the screen that you want to disable.

**WARNING!!! DO NOT CIRCLE THE MIDDLE OF THE SCREEN WHERE THE TRIPLE CLICK HOME POPUP APPEARS. CURRENTLY, IF THAT AREA IS SELECTED, YOU CANNOT TYPE IN THE PASSCODE TO TURN OFF GUIDED ACCESS!**

The Time Limit button enables you to set the amount of time that Guided Access allows the student to use this app. When the time expires, the app shuts down until Guided Access is turned off. Once the timer is activated, press the Home button to see how much time is left on the timer count down.

When all the settings are established, activate Start in the upper right corner. Or, activate Cancel in the upper left corner.

**During this training, we will turn Guided Access Off and we will not add Guided Access to the Accessibility Shortcut.**

## 1.30 Accessibility Shortcut (Triple-Click Home)

Accessibility Shortcut used to be called “Triple-Click Home”; it is a method of clicking the Home button three times in order to easily turn On/Off various accessibility features. You can choose to set Triple-Click Home to control VoiceOver, Invert Colors, Grayscale, Zoom, Switch Control, Assistive Touch and Guided Access or any combinations of these features. Guided Access is added to Triple-Click Home under the Guided Access setting.

To set Triple-Click Home, go to Settings > General > Accessibility (scroll down) > Triple-Click Home, and select your desired options.

Once set, you can press and hold the Home button and tell Siri to enable accessibility options such as VoiceOver, Invert Colors, Greyscale, Assistive Touch, and Guided Access. Say, “Turn on VoiceOver” and Siri will do so. This option does not work with Zoom and some of the other accessibility features. You must have internet connection for Siri to work.

**During this training, we will *initially* set Triple-Click Home to Zoom, Grayscale, Invert Colors and VoiceOver.**

**TEACHER HINT: IF THE STUDENT IS TOTALLY BLIND AND DOES NOT NEED THE OTHER ACCESSIBILITY FEATURES, ONLY ENABLE VOICEOVER AS A TRIPLE-CLICK HOME OPTION. THIS WILL TURN VOICEOVER ON OR OFF WHEN THE HOME BUTTON IS PRESSED THREE TIMES.**

This section is located under Settings > General > Accessibility > **VoiceOver**

### 1.31 Speaking Rate

The speech rate can be adjusted to your preferred rate of speed.

To set the Speech Rate, go to Settings > General > Accessibility > VoiceOver > Speaking Rate. Move the slider button to the left for slower speech and to the right for faster speech.

**During this training, we will set the speech rate to 50%.**

TEACHER HINT: USE THE ROTOR TO ADJUST THE SPEECH RATE ON THE FLY.

### 1.32 Speak Hints

Speak Hints provides important VoiceOver information, especially when using unfamiliar apps or apps that have new interactions. Example: When you touch the Status bar VoiceOver will say, "Status bar item. Swipe down with three fingers to reveal the Notification Center, swipe up with three fingers to reveal the Control Center, double tap to scroll to top."

To turn Speak Hints on or off, go to Settings > General > Accessibility > VoiceOver > Speak Hints.

**During this training, we will turn Speak Hints on.**

### 1.33 Use Pitch Changes

VoiceOver uses pitch changes to provide additional information; VoiceOver speaks in a higher pitch when entering a letter, and a lower pitch when deleting a letter. VoiceOver also uses a higher pitch when speaking the first item of a group (such as a list or table) and a lower pitch when speaking the last item of a group.

To turn Pitch Hints on or off, go to Settings > General > Accessibility > VoiceOver > Pitch Hints.

**During this training, we will turn Pitch Hints on.**

## 1.34 Use Sound Effects

Sound Effects will turn on or off the VoiceOver sound effects. Sound effects are critical for VoiceOver users as these sound effects indicate what action has taken place or where the user is on the screen! These sound effects are the “click, click, click” when dragging your finger around empty space on the screen, the “thunk” when you are at the end/bottom of the page, etc.

To turn Sound Effects on or off, go to Settings > General > Accessibility > VoiceOver > Sound Effects

**During this training, we will turn Sound Effects on.**

**TEACHER HINT: SOUND EFFECTS ARE CRITICAL FOR VOICEOVER USERS!**

## 1.35 Speech

VoiceOver can speak with a variety of accents/dialects. You can choose your preferred English dialect (English US, English Australian, etc.).

Under the Speech option, you can also add accents as a Rotor option, meaning you can have English with a Spanish or German accent.

To select your preferred Speech dialect/accents, go to Settings > General > Accessibility > VoiceOver > Speech > Default Dialect (then choose your desired dialect).

To select your preferred Rotor Language, go to Settings > General > Accessibility > VoiceOver > Speech > Add new Language

**During this training, we will select English (U.S) Default. We will not add a rotor language.**

### *Enhanced Voices*

You can also choose Enhanced Quality voices; however, an Enhanced Quality voice requires significant memory space – over 100 MB. Alex is an Enhanced Quality voice that requires 869 MB. Alex delivers a natural sounding voice and has the ability to pronounce more words correctly. Alex is available on the iPad Air or newer generation iPad; Alex is not available on older generations. Once Alex is downloaded, Alex can be removed by sliding your finger from

right to left on the Alex option in Settings. *The Alex voice can speak faster than the normal VO voice.*

To select an Enhanced Quality Voice (including Alex), go to Settings > General > Accessibility > VoiceOver > Speech >

**During this training, we will select the English (U.S.) Default voice.**

**TEACHER HINT: IF YOU DOWNLOAD ALEX AND THEN DECIDE NOT TO USE THE ALEX VOICE, IT IS RECOMMENDED THAT YOU REMOVE ALEX DUE TO MEMORY SPACE THAT ALEX REQUIRES.**

### ***Rotor Languages***

You can select different rotor languages. Tap on a language (English) to adjust the rotor speech rate.

To select a the rotor's language (including Alex), go to Settings > General > Accessibility > VoiceOver > Speech >

**During this training, we will select the English (U.S.).**

This section is located under Settings > General > Accessibility > VoiceOver > Braille

## 1.36 Braille

The iPad (and other iOS devices) can be paired with a refreshable braille display (RBD). Braille students can read and write using the RBD and they can navigate and drive the iPad using a variety of powerful RBD commands.

There are a number of NEW RBD commands introduced in iOS 9!

### *Braille Display Output*

The braille, which is displayed on the RBD options, is Uncontracted 6-dot braille (which is uncontracted with 6 dot cells), Uncontracted 8-dot braille or Contracted braille. Currently in the U.S., we typically use Uncontracted 6-dot braille or Contracted braille.

6-dot Braille is used for Literary Contracted, Literary Uncontracted, UEB, Nemeth and ASCII Braille.

Uncontracted 8-dot braille is used for higher levels math and science materials.

To change the braille output on the fly, type G Chord (dots 1 + 2 + 4 + 5 + space).

To select your preferred Braille Display Output, go to Settings > General > Accessibility > VoiceOver > Braille > Braille Display Output.

**During this training, we will initially start with Contracted Braille Output.**

**TROUBLE SHOOTING: WHEN THE BRAILLE OUTPUT SHOWS UNUSUAL SYMBOLS, CHECK TO SEE THAT 8-DOT BRAILLE WAS NOT ACCIDENTLY TURNED ON. ALSO CHECK THAT UEB BRAILLE HAS NOT BEEN ACCIDENTLY TURNED ON.**

### *Braille Display Input*

The braille input options are Uncontracted Six-dot Braille, Uncontracted Eight-dot Braille and Contracted Braille.

To change the braille input on the fly, type dots 2 + 3 + 6 + space.

To select your preferred Braille Display Input, go to Settings > General > Accessibility > VoiceOver > Braille > Braille Display Input.

**During this training, we will initially start with Contracted Braille Display Input.**



## ***Automatic Braille Translation***

Automatic Braille Translation means that contractions are quickly translated. Students must type the entire word followed by a space. If a student types a braille word slowly, the individual letters will automatically become whole word contractions. For many students, having to think about the word as a whole word (instead of individual letters) and having to type the word quickly encourages the student to type faster.

When Automatic Braille Translation is turned off, students can take their time to produce Contracted braille without individual letters automatically becoming whole word contractions.

In iOS 8, the braille translation is slightly slower as the braille word appears on the RBD preceded by the full braille cell. The word is not incorporated into the text field until the space bar is pressed. This allows the student to check his braille as he writes the word – and to immediately edit the word by deleting and retyping before the word is placed into the text field.

In iOS 7, the space bar or punctuation symbol would translate the word; in iOS 8, only the space bar will translate the word.

To turn Automatic Braille Translation on or off, go to Settings > General > Accessibility > VoiceOver > Braille > Braille Display Input > Automatic Braille Translation.

**During this training, we will turn Automatic Braille Translation on.**

TEACHER HINT: IF YOU ARE WORKING WITH A BEGINNING BRAILLE STUDENT WHO TRULY HAS PROCESSING ISSUES OR PHYSICAL ISSUES AND NEEDS THE EXTRA TIME TO PHYSICALLY PRODUCE CONTRACTED BRAILLE, YOU CAN CHOOSE TO TURN AUTOMATIC BRAILLE TRANSLATION OFF.

## ***Braille Screen Input***

*When you are in a text field*, you can turn the rotor one position clockwise to enable the Braille Screen Input. You can now type directly on the iPad's screen using the 6 or 8 key input. The Braille Screen Input must be added to the Rotor settings.

There are three options: Uncontracted 6-dot Braille, Uncontracted 8-dot Braille and Contracted Braille. Uncontracted 6-dot Braille will announce each letter/character as it is typed. There is a slight learning curve to become proficient with the Braille Screen Input. It is recommended to lay the iPad flat on a table top while learning.

Braille Screen Input is done in Landscape mode. When using an iDevice, you have the option of Table Top or Screen Away. **Table Top mode** – when the iPad is flat - is the traditional Perkins keyboard. **Screen Away mode** - when the iPhone is tilted – is designed for people who prefer to hold the iPhone resting against their stomach with the screen away from their body. When in the Screen Away mode, the index, middle and ring fingers are placed evenly along the left and right edges of the screen. In this position, the left top is dot 1, left middle is dot 2, left bottom is dot 3, the right top is dot 4, the right middle is dot 5, the right bottom is dot 6. Screen Away mode is more often used with the iPhone than with the iPad.

**TEACHER HINT: STUDENTS CAN TAP DOTS ALMOST ANYWHERE ON THE SCREEN – THEY DO NOT HAVE TO TAP DIRECTLY ON THE VISUAL CIRCLE FOR A SPECIFIC DOT. SO, STUDENTS CAN TAP DOT 3 AT THE TOP OR BOTTOM OF THE SCREEN (IN TABLE TOP MODE) AS LONG AS THEY ARE TAPPING IN THE GENERAL DOT 3 POSITION ON THE LEFT SIDE OF THE SCREEN.**

### Calibrate

Each time you activate the Braille Screen Input, you must calibrate where your fingers are on the iPad's screen. Simultaneously, *quickly* double tap all six fingers on the iPad's screen. VoiceOver will say, "Dot positions calibrated."

### Exploring Mode

If you HOLD one or more dots, you will hear two tones, then VoiceOver will say, "In Exploring Mode (then VO names the dots numbers being held)". *You must continue to hold the dots in order to hear the dot numbers.*

**TEACHER HINTER: FOR BEST RESULTS, TURN ZOOM OFF WHEN USING THE BRAILLE SCREEN INPUT; A THREE FINGER DOUBLE TAP WILL ACTIVATE ZOOM OR ZOOM WINDOW (DEPENDING ON YOUR SELECTED ZOOM OPTION).**

To exit the Braille Screen Input, turn the rotor to another setting.

The Braille Screen Input commands are:

- 1 finger flick right: space
- 1 finger flick left: delete/backspace
- 1 finger up or down: choose the correct word when a word was misspelled
- 2 finger flick right: new line

To select Braille Screen Input, go to Settings > General > Accessibility > VoiceOver > Braille > Braille Screen Input.

**During this training, we will initially start with Uncontracted 6-dot Braille Screen Input.**

### *Status Cell*

VoiceOver provides tactile information about what is on the iPad's screen using status cells, located on the left or right side of the braille display. You can set your preferences for status cells on the left, right or off. Typically, students prefer to turn the Status Cell Off.

Each *individual* dot in the Status Cell has a unique, designated meaning. Status cell dots are *not* combined to have a different meaning. If the dot is raised, the dot indicates:

Dot 1: Unread Announcements – anything that VoiceOver announces. Dot 1 is almost always up as VoiceOver constantly announces information. To view/dismiss the announcement press N Chord.

Dot 2: Current Unread Announcements – announcements that are new that you have not yet read.

Dot 3: Muted Speech

Dot 4: Low Battery – low battery appears when the RBD has 20% battery power or less.

Dot 5: Landscape Mode – the iPad is held in the landscape position.

Dot 6: Screen Curtain On

Dot 7: Left Pannable – if you pan left, you will remain in the current item. Example: when in an email, if you pan left, you will remain in that email and will not jump to the previous email.

Dot 8: Right Pannable – indicates that there is more content of the current item to the right; you will not move out of the current item.

To select your Status Cell preference, go to Settings > General > Accessibility > VoiceOver > Braille > Status Cell.

**During this training, we will Select Status Cell off.**

TEACHER HINT: THE STATUS CELL IS A TACTILE REMINDER OF WHAT VOICEOVER HAS ALREADY SAID. STATUS CELL IS BENEFICIAL FOR STUDENTS WHO ARE DEAF/BLIND.

### *Equations use Nemeth Code*

iOS 7 introduced Nemeth Code support. In order for VoiceOver to read Nemeth Code properly and for the braille display to show Nemeth Code properly, the math must be correctly created using MathML. When Nemeth is created correctly, the student can choose to have VoiceOver read the entire math problem or sections of the math problem.

To turn Equations use Nemeth Code on or off, go to Settings > General > Accessibility > VoiceOver > Braille > Equations use Nemeth Code.

**During this training, we will turn Equations use Nemeth Code on.**

### *Show Onscreen Keyboard*

When in a text field, the iPad's onscreen keyboard will often appear, even if student wants to use a Bluetooth keyboard or Refreshable Braille Display. Turning the onscreen keyboard off allows the student to press the Bluetooth keyboard key or to use the RBD command to make the onscreen keyboard disappear.

To turn the Onscreen Keyboard on or off, go to Settings > General > Accessibility > VoiceOver > Braille > Onscreen Keyboard

**During this training, we will turn Onscreen Keyboard off.**

### *Turn Pages when Panning*

Turn Pages when Panning is a new option in iOS 8; this option allows the student to turn pages while panning. This is particularly important when reading books on the Refreshable Braille Display.

To select Turn Pages when Panning on or off, go to Settings > General > Accessibility > VoiceOver > Braille > Turn Pages when Panning.

**During this training, we will turn Pages when Panning on.**

### ***Braille Translation***

Braille translation allows the student to choose his preferred English braille code; the options are English (Unified), English (US), or English (United Kingdom). Currently, the U.S. is transitioning from English (US) to English (Unified). English (Unified) is also called UEB Braille. Digital braille can easily be switched from English (US) braille to UEB Braille!

To choose the desired English Braille Translation, go to Settings > General > Accessibility > VoiceOver > Braille > Braille Translation

**During this training, we will use English (US) Braille Code.**

### ***Alert Display Duration***

This is new in iOS 9. Alert Display Duration allows you to select how long the alert will be visible on your Braille display. The default is 3.00 seconds.

To the Alert Display Duration, go to Settings > General > Accessibility > VoiceOver > Braille > Alert Display Duration.

**During this training, we will use the 3 second default setting.**

This section is located under **Settings > General > Accessibility > VoiceOver**

## 1.37 Rotor Settings

Voiceover – the iPad’s built-in iOS screen reader – features an innovative virtual control called the “rotor”. The rotor is only available when Voiceover is turned on. To access the rotor, rotate your thumb and finger (or any two fingers) on the screen as if you were turning an actual dial. A popup dial will appear and you will hear a unique clicking sound. Continue to turn the rotor in order to move through the various rotor options. The options displayed within the rotor depend on the app you are using, the state of the app and the Rotor options you have selected within Settings.

The rotor allows you to configure the behavior of the one finger swipe up and one finger swipe down gestures. For example, when editing a document you can configure those gestures to move backwards or forwards by one character, word, or line. Alternatively, when using Safari to surf the web you can configure those gestures to move backwards or forwards by links, headings, buttons, and other types of elements that are commonly found on web pages.

To select your rotor settings, go to **Settings > General > Accessibility > Voiceover > Rotor** then check the following rotor settings:

- Characters
- Words
- Lines
- Speech Rate
- Punctuation
- Containers
- Headings
- Links
- Form Controls
- Tables
- Landmarks
- Buttons
- Text fields
- Text Selections
- Typing Mode

Note: Your rotor options may appear in a different order.

Text Selection is a great new option in iOS 9. This is a simple way to select text in order to copy, cut, highlight, add a note/comment, etc.

The rotor is a powerful navigation tool. When editing a document, use Characters to listen to the spelling of the word; use punctuation to have VoiceOver read the sentence with punctuation symbols; and, use Words or Lines to navigate efficiently to a desired location. On a website, use Headings to skim the topics, use Buttons to navigate to the “x” to close a window, use Text fields to jump directly to the text field to type in your search or fill in a survey question.

TEACHER HINT: THESE ROTOR SETTINGS CAN BE CHANGED TO MEET AN INDIVIDUAL’S NEEDS. FOR A YOUNG STUDENT WHO IS JUST LEARNING TO USE THE ROTOR, REMOVE ALL BUT THE MOST BASIC ROTOR OPTIONS. ONCE A STUDENT HAS TRIED THE VARIOUS TYPING MODES AND HAS CHOSEN HIS/HER DESIRED MODE, REMOVE THE TYPING MODE FROM THE ROTOR.

**During this training, we will select the rotor settings above.**

## 1.38 Typing Style

There are now three typing options that appear automatically in the Rotor when the student is in a text field:

Standard Typing: Drag your finger around the onscreen keyboard until you find the desired key and split tap (tap with a second finger).

Touch Typing: Drag your finger around the screen until you hear the desired character; the character is entered when you lift your finger.

Direct Touch Typing: Is designed for the student who is a fast, efficient touch typist who can instantly locate the desired key without dragging. This is for the confident typist!

To select your Typing Style, go to Settings > General > Accessibility > Voiceover > Typing Style

**During this training we will use Touch Typing.**

## 1.39 Phonetic Feedback

Phonetic feedback is used to clearly identify a typed or read character. When Phonetic Feedback is on, VoiceOver will first say the character and then speak a word beginning with the character. Example: When you set the rotor to Characters and move character by character, VoiceOver will say "E, echo".

To turn Phonetic Feedback on or off, go to Settings > General > Accessibility > VoiceOver > Phonetic Feedback.

**During this training, we will turn Phonetic Feedback on.**



## 1.40 Typing Feedback

You can choose the typing feedback on both the onscreen keyboard and the external (Bluetooth or RBD) keyboard. The options are for VoiceOver to say: Nothing, Characters, Words or a combination of Characters and Words.

**TEACHER HINT: FOR THE VERY BEGINNING BRAILLE READER/WRITER, YOU MAY WANT TO TRY CHARACTERS ONLY. THIS WILL PROVIDE THE STUDENT CONFIRMATION WITH EACH CHARACTER THAT IS TYPED.**

To select the desired Typing Feedback, go to Settings > General > Accessibility > VoiceOver > (scroll down) Typing Feedback.

**During this training, we will use Characters and Words.**

## 1.41 Always Speak Notifications

VoiceOver can speak every notification, meaning that VoiceOver can alert the student to every received text, email, banner, etc. During the school day, this can be distracting to the student and other nearby people.

To turn Always Speak Notifications on or off, go to Settings > General > Accessibility > VoiceOver > (scroll down) Always Speak Notifications.

**During this training, we will use Always Speak Notifications off.**

## 1.42 Navigate Images

Once images can be set as a Rotor option, students have three options of ways to navigate images: Always, With Descriptions, or Never. With Descriptions are images that have been labeled correctly (alt tags) in order for VoiceOver to provide meaningful information about the image.

Remember: Images must be selected in the rotor settings!

To select your preferred Navigate Images options, go to Settings > General > Accessibility > VoiceOver > (scroll down) Navigate Images.

**During this training, we will select Navigate Images Always.** However, note that in an effort to keep the Rotor uncluttered, we have not selected Images as a Rotor setting. If desired, Images can easily be added to the Rotor setting.

## 1.43 Large Cursor

When the Large Cursor is turned On the VoiceOver cursor box becomes a thick, bold box. When the screen background is darker, the VoiceOver cursor box also includes a white contrast line along with the bold black cursor box.

To turn on this option, go to Settings > General > Accessibility > VoiceOver > (scroll down) Larger Cursor.

**During this training, we will turn Large Cursor on.**

## 1.44 Double-Tap Timeout

This is a new feature in iOS 9. This feature is for students who have trouble physically creating the double tap gesture – two fast taps. This feature allows you to add more time between taps to allow a slower double tap gesture. The default setting is .25 seconds between taps.

To change the double-tap timeout, go to Settings > General > Accessibility > VoiceOver > (scroll down) Double-tap Timeout.

**During this training, we will use the .25 seconds default.**

## 1.45 Zoom and Zoom Window

### *Zoom*

“Zoom” is the traditional way to magnify the entire screen. The Zoom magnification range is 100 – 1,500%

### *Follow Focus*

This setting determines if the Zoom lens (magnified area) will follow the text cursor.

*TEACHER HINT: PREVIOUSLY, WHEN TYPING, ZOOM DID NOT FOLLOW AS TEXT WAS ADDED. FOLLOW FOCUS WILL AUTOMATICALLY DISPLAY THE TEXT HE/SHE WHICH IS CURRENTLY BEING TYPED.*

### *Smart Typing*

When Follow Focus is on, the Smart Typing on/off option appears in Settings. Typing on a magnified keyboard requires scrolling around the screen in order to locate the keys.

*TEACHER HINT: FOR MANY STUDENTS – ESPECIALLY STUDENTS WHO ARE USED TO TYPING ON THE TRADITIONAL KEYBOARD - IT IS EASIER AND MORE EFFICIENT TO TYPE WHEN THE KEYBOARD REMAINS THE NORMAL SIZE.*

### *Zoom Window*

Zoom Window enables the ability to magnify a section of the screen while maintaining the normal settings on the rest of the screen

### *Show Controller*

This toggle setting adds the Zoom Controller - a circle - to the screen. The Zoom Controller is used to move Zoom focus around, to bring up the new Zoom Menu and to quickly zoom in and out of an area.

### *Idle Visibility*

When Show Controller is turned on, Idle Visibility appears. This reduces the visibility of the Zoom controller when the controller is not in use. The slider’s default is 50%.

TEACHER HINT: STUDENTS THAT STRUGGLE WITH PHYSICALLY SCROLLING AROUND THE PAGE MAY PREFER TO USE THE SHOW CONTROLLER FEATURE.

### *Zoom Region*

This setting enables the student to choose Full Screen Zoom or the Window Zoom (partial screen zoom).

TEACHER HINT: IF THE STUDENT DOES NOT LIKE THE ZOOM WINDOW OR IF THE STUDENT DOES NOT USE THE ZOOM WINDOW FEATURE, TURN ZOOM REGION TO FULL SCREEN ZOOM.

### *Maximum Zoom Level*

This feature allows students to limit the amount of magnification. The maximum amount is 15x. Limiting the amount of magnification can be beneficial when using an iPod or iPhone, due to the small screen sizes.

TEACHER HINT: THE GREATER THE MAGNIFICATION, THE SMALLER THE FIELD — WHICH REQUIRES MORE SCROLLING. BIGGER IS NOT ALWAYS BETTER!

To set the Zoom options, go to Settings > General > Accessibility > Zoom

**For this training, we will initially turn on Zoom, Follow Focus and Show Controller. Turn Zoom Keyboard off. Idle Visibility is set to 50%. Zoom Region is set to Window Zoom. Maximum Zoom Level is set at 8x.**

TEACHER HINT: IF THE STUDENT DOES NOT USE ZOOM, TURN ZOOM OFF. ADJUST THE MAXIMUM ZOOM LEVEL FOR YOUR STUDENT'S SPECIFIC NEEDS.

This section is located under Settings (on the left one-third of the screen)

## 1.46 Sounds and Alerts

The VoiceOver sounds and alerts (such as the “dddd” heard when dragging your finger through empty space on the screen) can also be turned on/off and the volume can be increased /decreased in Sound settings. These VoiceOver sounds are critical to users who are visually impaired.

To adjust the volume of the VoiceOver sounds and alerts, go to Settings > Sounds > Ringer and Alerts. Adjust the volume using the slider. The default setting is in the middle.

**TEACHER HINT: IF THE VOLUME IS SET TOO LOW, YOU MAY NOT HEAR THE CRITICAL VOICEOVER SOUNDS AND ALERTS. MAKE SURE THE VOLUME IS SET IN THE MIDDLE OF THE SLIDER OR HIGHER.**

**During this training, we will set the Ringer and Alerts to at least three-fourths of the way to the right side of the slider.**

### *Change with Buttons*

Change with Buttons changes the volume controls to adjust the volume of the ringers and alerts – such as the “whoosh” sound when an email is sent. The volume controls are the physical controls located on the top left *edge* of the iPad when the Home button is on the right. When Change with Buttons is turned off, the physical volume controls will adjust the standard volume of the ringer VoiceOver speech and VoiceOver sounds.

**TROUBLE SHOOTING: IF YOU USE THE IPAD’S PHYSICAL VOLUME CONTROLS AND THE VISUAL POPUP HAS THE TEXT “RINGER” INSTEAD OF “VOLUME”, THEN THE CHANGE WITH BUTTONS CONTROL IS ON.**

To turn Sound Effects Volume on or off, go to Settings > Sounds > Change with Buttons.

**During this training, we will Turn Change with Buttons off.**

## 1.47 Passcode Lock

You can choose to keep your iPad private by adding a passcode. When the iPad is turned on or “wakes up”, the screen will show a number pad. You must select the correct numbers in order to unlock the iPad. You will choose your own password.

To set your Passcode Lock, go to Passcode. A popup screen will appear. You will enter your personal 4 number code.

**TEACHER HINT: IF YOU ARE USING AN IPAD AND YOU HAVE CONFIDENTIAL STUDENT INFORMATION ON THE IPAD, YOU WILL NEED TO ACTIVATE THE PASSCODE LOCK.**

**For this training, you will NOT need to set the Passcode Lock.**

## 1.48 Do Not Disturb

When enabled, Do Not Disturb silences calls and alerts. This is a great feature for students and teachers when in the classroom! When Do Not Disturb is on, a moon icon will appear in the Status bar; incoming Face Time calls and all alerts will be silenced. When using an iPhone, Do Not Disturb will also silence incoming calls.

You can manually turn Do Not Disturb On/Off in the Control Center. Do Not Disturb hours can be set to automatically enable Do Not Disturb between the hours you specify.

In Settings, you can select these Do Not Disturb options:

- Manual: When enabled, calls and alerts received while the device is locked will be silenced.
- Scheduled: Automatically enables Do Not Disturb between the hours you specify.
- Allow Calls From: Options are to allow calls from everyone, no one or specific contact groups stored on your device.
- Repeated Calls: If someone calls/Face Times twice within three minutes, the call will not be silenced.
- Silence: Option to silence calls always or only while the device is locked.

To set Do Not Disturb, go to Settings > Do Not Disturb > Manual.

TEACHER HINT: IT IS RECOMMENDED THAT STUDENTS TURN DO NOT DISTURB ON DURING SCHOOL HOURS SO THAT THEY AND OTHER ARE NOT DISTRACTED. IT IS ALSO RECOMMENDED TO TURN DO NOT DISTURB OFF DURING NORMAL "SLEEPING" HOURS; IF DESIRED, SELECT THAT CALLS AND TEXTS FROM IMMEDIATE FAMILY MEMBERS ARE ALLOWED THROUGH.

**During this training, we will turn Do Not Disturb on.**



## 1.49 Display & Brightness

This enables users to easily change the brightness, Text Size and Bold Text accessibility options. There is also an option for Auto-Brightness on or off.

To quickly adjust Display & Brightness options, go to Settings > Display & Brightness (left one-third of the screen).

**During this training, we will Turn Auto-Brightness on.** (We have previously adjusted the brightness, Text Size, turned Bold Text on in the accessibility section of Settings.)

**TEACHER HINT: STUDENTS CAN ALSO QUICKLY ADJUST THE BRIGHTNESS, VOLUME, AND TURN ON/OFF DO NOT DISTURB IN THE CONTROL CENTER. (EXPOSE THE CONTROL CENTER BY ONE FINGER SWIPE UP STARTING AT THE BOTTOM EDGE OF THE IPAD'S SCREEN.)**

## 1.50 Wallpaper

The “Wallpaper” is the background of your Lock Screen and Home Screen. You can choose from available backgrounds and patterns, or you can use a picture that is in your Photo app. For some students with visual impairments, changing the background to a solid color – such as black – is beneficial.

Under the Wallpaper settings, you can choose a variety of dynamic wallpaper (tap on Dynamic to view your options), Stills, or Photos from your Photo app.

To change the Wallpaper, go to Settings > Wallpaper > Choose a New Wallpaper

**During this training, we will not change the Wallpaper.**

## 1.51 Home Screen App Placement

During this training, we will be using VoiceOver gestures and Bluetooth keyboard commands to quickly navigate the Home Screen. There are special commands to move to the top left, bottom left, and bottom right. **For the duration of this training, these apps need to be in key positions listed below so that every iPad will react in the same manner.** These apps should *not* be in a folder. After the training, participants can arrange the apps as they desire.

On the first Home screen page, the top row (starting in the top left corner) should have:

**Calendar, Notes, Reminders, iBooks, Maps**

On the first Home screen page, in the Dock/bottom row (starting in the bottom left corner) should have:

**Pages, Mail, Settings, Settings, Dropbox, Safari**

## 1.52 Camera and Photos

These are not settings but are great accessibility features.

When using the camera app with VoiceOver, VoiceOver will state how many people (faces) are included in the screen and where these faces are located (so that you can center the faces).

When viewing a photo with VoiceOver, VoiceOver will state photo descriptions, date of the photo, orientation, whether the photo is crisp or blurry, and how well lit the photo is.