



Accessibility in *i-Ready Personalized Instruction*

Feature Overview: Screen-Reader Support

Contents

Dedicated to Creating Accessible Experiences.....	2
How Does Screen-Reader Access in <i>i-Ready Personalized Instruction</i> Help Students?	2
Web Content Accessibility Guidelines (WCAG) 2.2 and UDL References.....	2
Screen Readers Tested with <i>i-Ready Personalized Instruction</i>	2
Recommended Screen-Reader Settings for <i>i-Ready Personalized Instruction</i>	3
Recommended <i>i-Ready Personalized Instruction</i> Settings for VoiceOver with Safari.....	4
Recommended <i>i-Ready Personalized Instruction</i> Reading Comprehension Settings.....	5
Recommended <i>i-Ready Pro</i> Settings.....	5
Special Considerations for Lesson Settings.....	6
Screen Reader-Supported Content Types.....	6
Refreshable Braille Displays	6
Suggested Screen-Reader Navigation Tips and Tricks.....	7
Skip Links.....	7
Underline and Highlight.....	8
Number Lines.....	8
Lessons with Screen-Reader Support.....	9
Grade-Level Approach to Screen-Reader Support.....	9
Moving Forward.....	9

Dedicated to Creating Accessible Experiences

We are dedicated to creating products that are fair and accessible to the widest population of students. As part of this effort, our roadmap includes ongoing improvements to online lesson accessibility.

How Does Screen-Reader Access in *i-Ready Personalized Instruction* Help Students?

Screen-reader operability provides access for students who are blind or have low vision. Students are provided access to all content conveyed visually on the screen via auditory format. In addition, students can interact with and complete all lesson activities using a keyboard and screen-reader commands. All nonverbal interactions within the lesson are communicated to students using status messages, alternative text, and audio descriptions. Providing screen-reader access in *i-Ready Personalized Instruction* creates a gateway to our content for users who are unable to or have difficulty interacting visually with lesson content. This accessibility feature supports the [Universal Design for Learning \(UDL\) Principle I: Design Multiple Means of Representation](#) and gives students an alternative means to engage with and experience *i-Ready* content. This feature creates a more flexible, inclusive, and accessible way for users to learn within *i-Ready* digital lessons.

For a demonstration of the screen-reader experience in *i-Ready Personalized Instruction*, please refer to our short video on [Accessibility Supports for Students Who Are Blind or Low Vision](#).

Web Content Accessibility Guidelines (WCAG) 2.2 and UDL References

- [WCAG 2.2 Guidelines](#)
- [UDL Guidelines](#)

Screen Readers Tested with *i-Ready Personalized Instruction*

Relevant *i-Ready Personalized Instruction* lessons have been tested with the recommended screen reader and browser combinations, including JAWS® using Chrome™, NVDA using Firefox®, and VoiceOver using Safari®. Although other screen reader and browser combinations may be functional, these combinations have not been tested and are not recommended.

Note: Screen-reader accessibility for IOS®/iPadOS® has not been optimized, and we have not tested with ChromeVox™ or Windows® Narrator screen readers.

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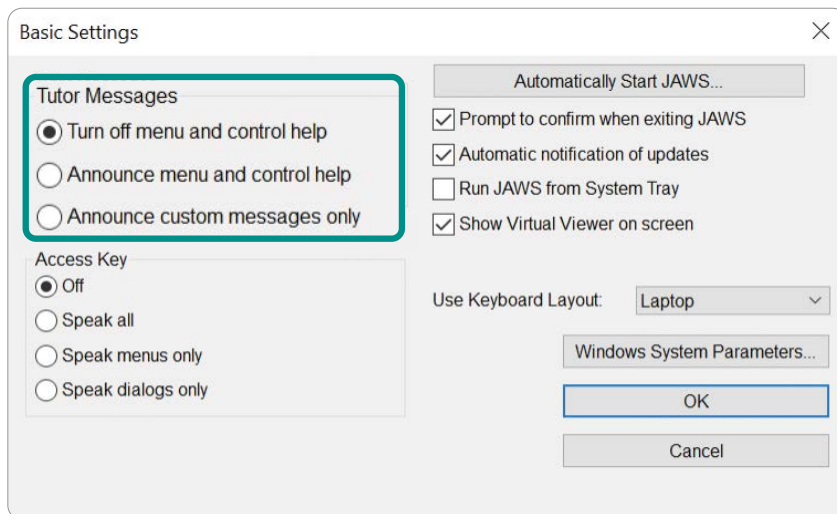
Recommended Screen-Reader Settings for *i-Ready Personalized Instruction*

The following screen-reader settings are recommended for optimal student experience when using *i-Ready Personalized Instruction*. Although these settings are not required to access *i-Ready Personalized Instruction* lessons, choosing these settings will allow for a smooth and improved user experience.

JAWS

Best Used with Chrome

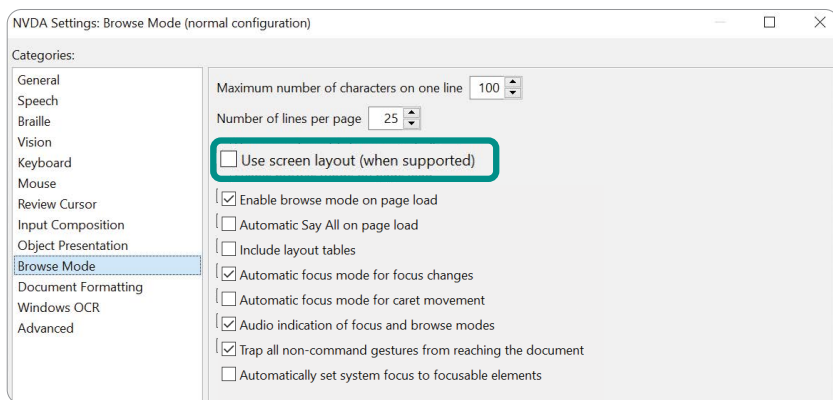
To reduce the instances of system audio overlapping with screen-reader audio, it is recommended JAWS users turn off Tutor Messages in the Basic Settings panel.



NVDA

Best Used with Firefox

To maximize the screen-reader experience, it is recommended students uncheck "Use screen layout (when supported)" in the NVDA Settings: Browse Mode panel.



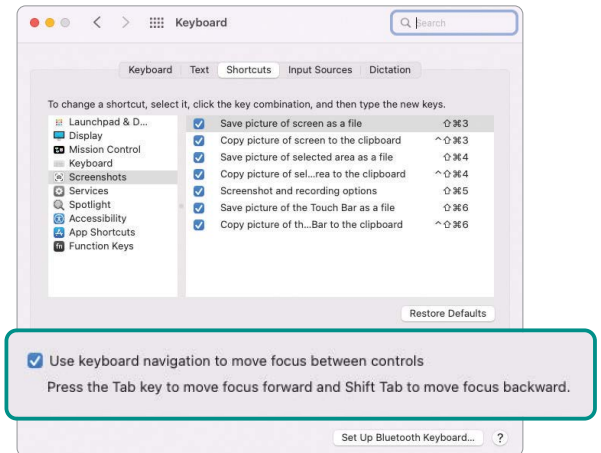
VoiceOver

For Mac®—Best Used with Safari, but please note that keyboard accessibility is **not** enabled by default on a Mac or Safari. To set up a Mac and/or Safari for students who rely on keyboard and screen-reader access, complete [the three steps on page 4](#) for using VoiceOver with Safari with *i-Ready Personalized Instruction*.

Recommended *i-Ready* Personalized Instruction Settings for VoiceOver with Safari

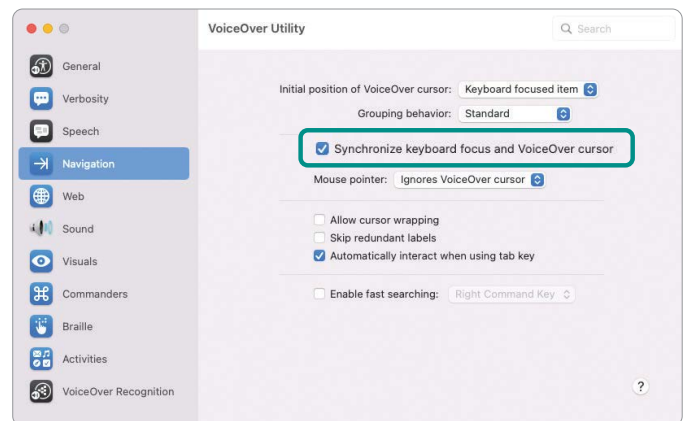
1. Enable tabbing for keyboard navigation in system preferences (strongly recommended).

- Open System Preferences.
- Select **Keyboard**.
- Select the **Shortcuts** tab.
- Select the checkbox for “**Use keyboard navigation to move focus between controls.**”



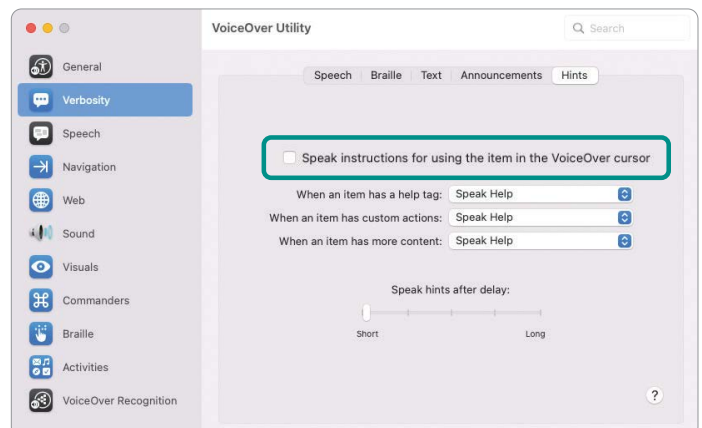
2. Turn on the “Synchronize keyboard focus and VoiceOver cursor” setting for optimal navigation (strongly recommended).

- Open the **VoiceOver Utility** menu.
- Select the **Navigation** tab on the left submenu.
- Select the checkbox for “**Synchronize keyboard focus and VoiceOver cursor.**”



3. Turning off the “speak hint” feature is recommended, as VoiceOver hints are likely to cause overlapping audio, especially when status messages are present.

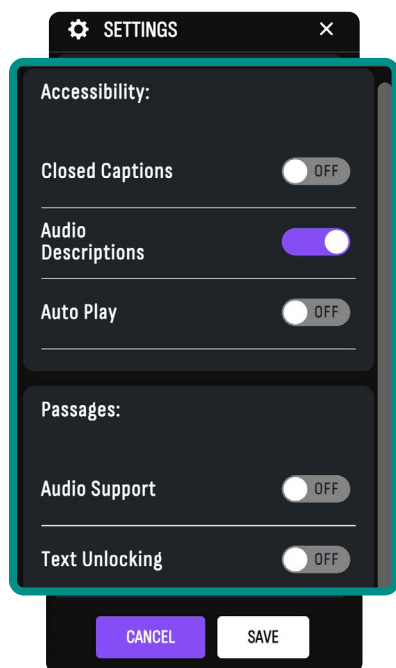
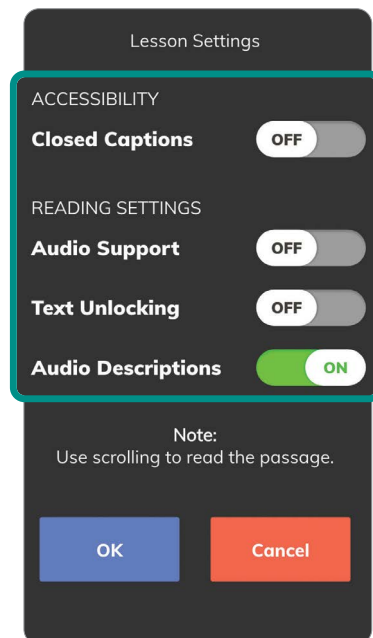
- Open the **VoiceOver Utility** menu.
- Select the **Verbosity** tab on the left submenu.
- Select the **Hints** tab.
- Deselect the checkbox for “**Speak instructions for using the item in the VoiceOver cursor.**”



Recommended *i-Ready Personalized Instruction* Reading Comprehension Settings

Settings specific to *i-Ready Reading* Comprehension lessons can be found in the bottom right corner of the lesson screen, under the gear icon. Although not required to access lesson content with screen readers, the following *i-Ready Reading* Comprehension lesson settings are recommended for the best student experience:

1. **Closed Captions:** No recommended setting for screen-reader users, as this setting should be utilized per individual student need
2. **Audio Support:** No recommended setting. Students who prefer a human voice may wish to turn on audio support. Please note that each newly unlocked section of text within the passage will have its own individual audio button. To move through the passage quickly and with minimal feedback, students can elect to turn off Audio Support and listen to the passage through the screen-reader audio.
3. **Text Unlocking:** Recommended Off
4. **Audio Descriptions:** Recommended On



Recommended *i-Ready Pro* Settings

Settings specific to *i-Ready Pro's* Essential Lessons and Elevate Lessons in Reading can be found in the top navigation bar under the gear icon. Although not required to access lesson content with screen readers, the following lesson settings are recommended for the best student experience:

1. **Closed Captions:** No recommended setting for screen-reader users, as this setting should be utilized per individual student need
2. **Audio Descriptions:** Recommended On
3. **Auto Play:** Available for Elevate Lessons in Reading and Essential Lessons in Mathematics only. No recommended setting. Students who prefer a human voice may wish to turn on Auto Play. Students who prefer to interrupt and pause audio throughout the lesson may wish to turn off Auto Play.
4. **Audio Support:** No recommended setting. Students who prefer a human voice may wish to turn on Audio Support. Please note that each newly unlocked section of text within the passage will have its own individual audio button. To move through the passage quickly and with minimal feedback, students can elect to turn off Audio Support and listen to the passage through the screen-reader audio.
5. **Text Unlocking:** Recommended Off

Special Considerations for Lesson Settings

- Lesson settings will default to Off.
- If enabled, lesson settings will persist throughout the login session.
- Lesson settings are not retained across sessions and will default to Off upon each login session.
- Lesson settings can only be enabled from a student's account.
- Lesson settings may vary depending on the subject.

Screen Reader-Supported Content Types

Students may encounter the following types of content when using their screen reader to access *i-Ready Personalized Instruction*:

- Landmarks/regions
- Headings
- Skip links
- Images with alternative text and long descriptions
- Interactive graphic organizers
- Dropdowns
- Multiple choice options with buttons/radios
- Underlined/highlighted text
- Audio descriptions of sound effects and videos
- Dialogs
- Edit boxes
- Interactive number lines

Refreshable Braille Displays

Curriculum Associates has conducted internal testing of *i-Ready Personalized Instruction* lessons optimized for use with a screen reader using JAWS, NVDA, VoiceOver, and specific browser combinations. Each of the tested screen readers can also be used with some refreshable braille displays. Curriculum Associates also partnered with Perkins Access to test the validity and usability of JAWS combined with Chrome as well as BrailleNote® Touch Plus. Educators should refer to documentation on the student's screen reader and refreshable braille display before determining if the accommodation is appropriate for the student.

i-Ready Personalized Instruction includes questions that test a student's ability to match a written word with a spoken representation of that word. For students who are learning braille, educators may wish to consider using a refreshable braille device paired with a computer and compatible screen reader/browser combination for those types of questions.

Suggested Screen-Reader Navigation Tips and Tricks

Screen-reader users who use JAWS, NVDA, or VoiceOver to navigate accessible areas of *i-Ready Personalized Instruction* can use the information below for relevant shortcuts. For younger screen-reader users, or those with emerging screen-reader skills, students can access all content using a few simple keystrokes (e.g., arrows, tab, enter/space, and control keys). Students with more advanced knowledge of screen-reader shortcuts can use known keystrokes to navigate between elements, as shown in the table below.

Common Keyboard Keystrokes and Actions for Screen Readers

Action	JAWS Keystroke	NVDA Keystroke	VoiceOver Keystroke
Navigate forward and backward throughout lesson content.	Up/Down arrow	Up/Down arrow	VO+right arrow/VO+left arrow
Navigate forward and backward through interactive elements of the lesson.	Tab/Shift+tab	Tab/Shift+tab	Tab/Shift+tab
Select answer choices, activate audio buttons, etc.	Enter or space	Enter or space	Enter or space
Stop screen-reader audio.	Control	Control	Control
Navigate by landmark/region (helpful for navigating between passage and activities).	Control	d/Shift+d	Use Rotor (VO+U, then left/right arrow).
Navigate by heading.	h/Shift+h	h/Shift+h	VO+command+h/ VO+shift+command+h
Navigate by button.	b/Shift+b	b/Shift+b	Use Rotor (VO+U, then left/right arrow).
Navigate by radio/radio group (helpful for multiple choice answer options).	a/Shift+a	r/Shift+r	Use Rotor (VO+U, then left/right arrow).
Read all content (helpful for reading passage as a whole).	Insert+down arrow	Insert+down arrow	VO+a

For more in-depth content on screen-reader commands, please reference your screen reader's specific resources.

Skip Links

To provide simplified navigation between passage and activity sections of *i-Ready Personalized Instruction*, keyboard-only skip links have been integrated into lessons. When activities prompt students to return to the passage to select an answer choice or clue, simply navigate below the prompt (via tabs, arrows, or button shortcuts) and a skip link will appear. When activated, this link will take students to the relevant portion of the passage to complete the activity.

Find Your Clue



How long did Charles Osborne have the hiccups?

Tap the sentence that tells how long they lasted.

Go to Passage

Underline and Highlight

Most screen readers do not support highlighted and underlined text. For *i-Ready Personalized Instruction* Reading Comprehension lessons, screen reader-only text has been added before and after highlighted and underlined text within the passage, indicating where a highlighted/underlined portion begins and ends. In addition, when an activity requires the student to reference a highlighted/underlined portion of the passage, a screen reader-only list will be present below the activity question (see screenshot for example). The list consists of each highlighted/underlined phrase as well as a one-way skip link that will take the student to the highlighted/underlined text within the passage. This feature allows students to quickly reference the highlighted/underlined portions of the passage while in the activity region and navigate to the relevant areas of the passage using minimal keystrokes.

Hiccups are a sudden contraction of the diaphragm, a muscle that helps you breathe. When the diaphragm tightens, you briefly gulp some air. This causes the opening between your vocal cords to snap shut, and you make the "hic" sound!

Word Meaning — Instruction — Level C

Which words from the passage help you understand what "contraction" means? Fill in the blank to explain.

The text says, "Hiccups are a sudden contraction of the diaphragm." The words help understand what "contraction" means.

Links

- underlined text: contraction
- highlighted text: diaphragm tightens
- highlighted text: gulp some air
- highlighted text: helps you breathe

VOCAL CORDS

OPEN

CLOSE

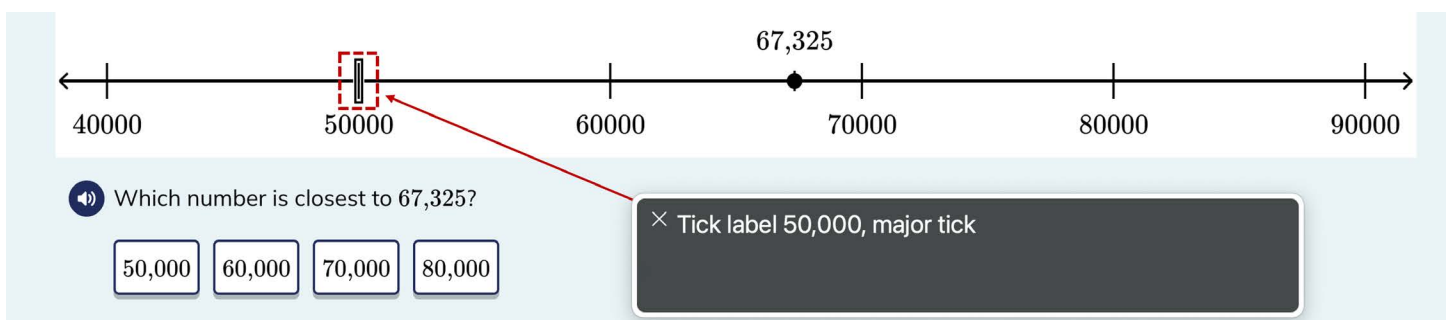
Links menu

Number Lines

In *i-Ready Pro's* Essential Lessons for Mathematics, a screen-reader user can navigate within number line diagrams, with a few exceptions (see below). Once they access the diagram, screen-reader users can navigate through the number line and explore each individual tick mark, number, point, etc., from left to right, as they would a physical or tactile number line.

Due to technical constraints, some number lines do not allow for screen-reader users to navigate to the individual elements of the number line. The following *i-Ready Pro* Essential Lessons for Mathematics include number lines made accessible with standard alternative text instead:

- Compare Sums and Difference to 1
- Find Sums and Missing Addends



Lessons with Screen-Reader Support

Screen-reader support is available for all Reading Comprehension lessons in English for Grades 3–8, in Vocabulary Context Clue lessons in English for Grades 3–8, in *i-Ready Pro's* Essential Lessons for Grades 6–8, and in *i-Ready Pro's* Elevate Lessons in Reading for Grades 6–8.

Grade-Level Approach to Screen-Reader Support

To maximize the impact of our screen-reader support releases, we conducted extensive interviews with educators across the country who work directly with students who are blind or have low vision. From those focus groups, which included feedback on some initial proofs of concept, there was consensus that most screen-reader usage begins in Grade 3. Based on this input, screen-reader support for *i-Ready Personalized Instruction* Reading Comprehension begins in Grade 3.

Moving Forward

Curriculum Associates is driven to provide accessible instructional content, and we plan to expand our coverage of lessons with screen-reader support to additional grades and domains. We are also actively applying learnings on screen-reader support and reflow from *i-Ready Pro's* Essential Lessons and Elevate Lessons in Reading to our other Personalized Instruction Mathematics lessons, which are highly visual due to the constructs being taught.