

Classroom Mathematics

California

Digital Practice

Universal Accessibility Features and Accommodations

Curriculum Associates Guidance Brief | August 2026



Digital Practice Universal Accessibility Features and Accommodations Guidance

Curriculum Associates Guidance Brief

Section 1: Overview

1.1: The Curriculum Associates Commitment	1
1.2: Accessibility Supports and Accommodations	1
1.3: Presentation of Material	5
1.4: Universal Audio Support	5
1.5: Digital Practice and WCAG	5

Section 2: Accommodations Features and Processes for Students

Who Are Blind or Have Low Vision

2.1: General Guidance	6
2.2: Screen Readers	6
2.3: Refreshable Braille Displays	9
2.4: Color Contrast/Visual Design	9

Section 3: Accommodations Features and Processes for Students

Who Are Deaf or Hard of Hearing[10](#)

Section 4: Accommodations Features and Processes for Students

with Learning Disabilities or Differences Such as Dyslexia or Dyscalculia[10](#)

Section 5: Designated Audio Support, Test-Read/Read-Aloud Accommodations, and Text-to-Speech Browser Extensions

5.1: Text-to-Speech Browser Extensions	11
5.2: Test-Read/Read-Aloud Accommodations	11

Section 6: Digital Practice and Students with Severe Cognitive Disabilities[11](#)

Section 7: Digital Practice and Print/Paper-and-Pencil Accommodations[12](#)

Section 8: Options for English Learners/Multilingual Learners.....[12](#)

Appendices

Appendix 1: Characters, Formats, and Tactile Graphics Used in Digital Practice Alternative Text	13
Appendix 2: Keyboard Commands for Common Screen Readers	14
Appendix 3: Digital Practice—MathML	16
Appendix 4: Coverage/Exceptions	17
Appendix 5: Using Magnification Features in Desktop Computers	18

Section 1: Overview

Digital Practice includes many universal accessibility features and supports for numerous accommodations. This document provides detailed descriptions of these features along with supports and guidance for educators on effective implementation with students.

1.1: The Curriculum Associates Commitment

At Curriculum Associates, we believe every student has the potential for educational excellence. That's why we're dedicated to creating accessible materials that maximize usability for people with disabilities. We strive to ensure that accessibility and accommodation support considerations are incorporated into our product development process from the very beginning, and we've developed a continual improvement approach to accessibility that ensures we're always improving and learning.

1.2: Accessibility Supports and Accommodations

In Digital Practice, universal accessibility features are available to all students and do not require an educator to enable these features.

Conversely, there are processes and tools in Digital Practice that are only used to support students who require accommodations. Accommodations are usually mandated supports provided as a part of a student's IEP, 504, and/or English learner plan. IEP teams and other educators within the school determine which accommodations a student receives. Although Curriculum Associates provides guidance on how to implement various accommodations, it is up to educators who work with individual students to determine which accommodations are needed and how to correctly implement them.

Please refer to the table and footnotes on the next pages for an overview of current accessibility supports and accommodations across *Classroom Mathematics California*. The footnotes contain product-specific details related to Digital Practice as well as other *Classroom Mathematics California* products. A complete set of *Classroom Mathematics California* accessibility resources is available at our [Classroom Mathematics California Accessibility and Accommodations Resource Hub](#).

Classroom Mathematics California: Accessibility Supports and Accommodations

This table contains information about accessibility features and support for accommodations in *Classroom Mathematics California*. Important footnotes to this table are available on the [page 4](#).

Universal Supports	Designated Supports	Accommodations
Available to all students, regardless of their disability status, English proficiency level, or any other type of documented need	Available for use by any student as determined by an educator familiar with the student's characteristics and needs	Available to students in accordance with their IEP, 504, and/or English learner plans
Embedded Embedded universal supports available within Inform, Student Bookshelf, Comprehension Checks, Digital Practice, and Interactive Practice that require no additional configuration: • Audio support¹ • Audio descriptions² • Keyboard navigation³ • Calculator* • Color contrast⁴ • Closed captioning⁵ • Digital Math Tools⁶ • Presentation of material for age-appropriate pedagogy and legibility⁷ • Built-in zoom-in/zoom-out magnification^{8**} • Highlighting and note-taking capability** • Multilingual Glossary** • Reflow⁹	Embedded Audio support is available for Inform for Mathematics Grades 6+ items as either a designated support or an accommodation. ¹⁰ Educators need to enable this feature. To learn more about audio support in <i>i-Ready Inform™</i> , please refer to the Feature Overview: Audio Support .	Embedded Audio support is available for Inform for Mathematics Grades 6+ items as either a designated support or an accommodation. ¹⁰ Educators need to enable this feature. To learn more about audio support in <i>i-Ready Inform</i> , please refer to the Feature Overview: Audio Support . Educators can enable Tactile Graphics Support and use the Tactile Graphics Finder to provide students who are blind or have low vision with access to on-demand tactile graphics. ^{11***}

i-Ready Inform™ is the new name for the adaptive assessment previously named "*i-Ready Diagnostic*."

i-Ready Inform* (in specific items) and Student Bookshelf only **Student Bookshelf only **i-Ready Inform* only

Universal Supports	Designated Supports	Accommodations
Available to all students, regardless of their disability status, English proficiency level, or any other type of documented need	Available for use by any student as determined by an educator familiar with the student's characteristics and needs	Available to students in accordance with their IEP, 504, and/or English learner plans
Non-Embedded Non-embedded universal supports include: • Audio amplification • English dictionary (when appropriate)* • Noise buffer (e.g., earmuffs, audio aids) • Scratch paper (i.e., blank paper) • Thesaurus (when appropriate)* • Student Bookshelf and Interactive Practice contain scaffolded support (i.e., content-specific, interactive elements).	Non-Embedded Educators can make the following non-embedded designated supports available to students: • Bilingual dictionary • Magnification device⁸ • Native-language translation of directions • Student reads test aloud.	Non-Embedded The following non-embedded accommodations can be made available to students: • Abacus • Alternate response options • Calculator • Extended time breaks and flexible scheduling • Graphic organizer/reference sheet/checklist • Human reader • Human signer • Multiplication table • Scribe • Screen readers¹²

*i-Ready Inform (in specific items) and Student Bookshelf only

- ¹ **Universal audio support** (i.e., editorially vetted audio of text) is currently available in Grades K–5 Inform items, Comprehension Check items, Student Bookshelf, Interactive Practice, and Digital Practice with limited exceptions.
- ² **Audio descriptions:** Students can enable audio descriptions of what is happening visually in Inform Introductory Videos for Grades 3–5 and in the Develop Session Videos of the Student Bookshelf for Grades 6–8 by selecting the AD button. Additional audio descriptions to Inform videos will be added in ongoing releases.
- ³ **Keyboard navigation** is available with documented exceptions.
- ⁴ **Contrast requirements:** All Interactive Practice problems include global navigation controls that adhere to WCAG 2.1 Level AA requirements for color contrast. In Inform, Student Bookshelf, Comprehension Checks, Interactive Practice, and Digital Practice, we are compliant with WCAG 2.1 Level AA requirements for minimum contrast with documented exceptions.
- ⁵ **Closed captioning** is available in Interactive Practice problems, Develop Session Videos, and in the Unit Flow and Progression Videos on the Student Bookshelf. Closed captioning is available on all Inform interactive and non-interactive tutorials for Grades K–2 and the tutorials and Inform Introductory Videos for Grades 3+. Comprehension Check and Digital Practice content does not require closed captioning.
- ⁶ **Digital Math Tools** are universally available to students in their dashboard, and specific tools are available within lessons on the Student Bookshelf. In Inform, Comprehension Check, Digital Practice, and Interactive Practice problems, Digital Math Tools are available on specific items or lessons.
- ⁷ **Presentation of material for age-appropriate pedagogy and legibility** includes visual mathematical models/representations that present multiple-solution strategies.
- ⁸ A **built-in zoom-in/zoom-out magnification tool** is included on the Student Bookshelf. Inform, Comprehension Check, and Interactive Practice problems do not have built-in magnification tools. *i-Ready Inform*, the Student Bookshelf, and Digital Practice support reflow via browser zoom up to 400%. Browser zoom controls can be used to zoom in on content for many items in Inform and Interactive Practice. While we have not performed extensive testing with third-party or built-in operating system magnification tools, educators may find the following resources helpful: [For PCs](#) | [For Macs®](#) | [For iPads®](#) | [For Chromebooks™](#)
- ⁹ **Reflow** applies to *i-Ready Inform*, the Student Bookshelf, and Digital Practice.
- ¹⁰ Due to **differences in state and local policies** related to audio support, we offer read-aloud support nationally as both a designated support and an accommodation. Educators can enable it for students in the platform. Educators should reference a student's IEP, 504, and/or English learner plan to determine what accommodations are appropriate and/or use other documented needs to determine what designated supports are appropriate. For both documented supports and accommodations, educators should ensure they are referencing and adhering to their state and district policies around the provision of that support or accommodation. Reports will indicate whether read-aloud support was made available to a student, but *i-Ready* will not track/indicate if it was used as a designated support or an accommodation.
- ¹¹ There are some instances when a student may request or require a tactile graphic to access a test item. Because *i-Ready Inform* is a computer-adaptive assessment, notification about the need for a tactile graphic for specific items cannot be provided in advance. This [guidance brief](#) offers information about how to use the Tactile Graphics Finder, a custom tactile graphic library, to provide students with standardized, ready-to-emboss tactile materials on demand. Please note, while the Tactile Graphics Support setting and Tactile Graphics Finder are embedded in the *i-Ready* interface, embossed tactiles are provided to students as a non-embedded accommodation.
- ¹² Inform, Student Bookshelf, Comprehension Checks, and Digital Practice have been tested with JAWS®, NVDA, and VoiceOver with specific browser combinations. Reduction of exceptions and improved usability are part of our ongoing work. Educators should refer to documentation on the student's screen reader before determining if the accommodation is appropriate for the student.

Mac® and iPad® are registered trademarks of Apple, Inc.

Chromebook™ is a distinct brand feature of Google, LLC.

JAWS® is a registered trademark of Freedom Scientific, Inc.

1.3: Presentation of Material

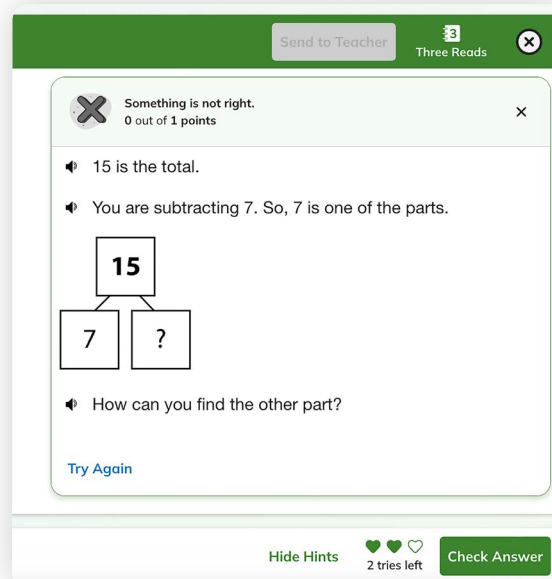
As indicated above, Digital Practice has many universal accessibility features built into the program to help address the needs of students with specific accommodations stipulated in their IEP, 504, and/or English learner plans. These features include:

- Visual mathematical models/representations that present multiple solution strategies
- A large, easily legible format for all items and passages
- Large, student-friendly fonts
- Clear and concise directions
- Universal keyboard navigation (with documented exceptions—see details in [Appendix 4](#))

The documents [Classroom Mathematics California: Accessibility and Accommodations Update](#) and the [FAQ: What accessibility features are available in i-Ready Inform, Student Bookshelf, Comprehension Checks, Digital Practice, and Interactive Practice in Classroom Mathematics California, and how can they be enabled?](#) include additional information. These and other i-Ready resources are available on our [Classroom Mathematics California Accessibility and Accommodations Resource Hub](#).

1.4: Universal Audio Support

Universal audio support is available in Digital Practice for Grades K–8 and Algebra 1 in English and Spanish. This audio support is curated by our creative and editorial teams to maximize pedagogical impact of the content. Audio is played automatically in Grades K–2 items, and all audio in Grades 3–8 items can be played on demand. Feedback audio for all grades is only enabled by clicking on the feedback button labeled “Check Answer” and does not autoplay at any grade level. All audio can be replayed by pressing corresponding audio buttons. These universal supports are available to all students regardless of IEP, 504, and/or English learner plan requirements and are directly embedded in the i-Ready system. They do not require educator assistance or management.



1.5: Digital Practice and WCAG

Digital Practice is being developed with the aim of meeting WCAG 2.2 Level AA with documented exceptions. [Appendix 4](#) of this document provides detailed information about coverage and exceptions within Digital Practice. Further information on i-Ready's WCAG documentation is available from your i-Ready Partner Success Manager, and [further information about WCAG is available from the W3C® WAI](#).

Classroom Mathematics California and the WCAG

Your partner success manager or educational sales consultant will be happy to provide you with up-to-date information on *Classroom Mathematics California* and WCAG. Please contact them for details.

W3C® is a trademark (registered in numerous countries) of the World Wide Web Consortium; marks of W3C are registered and held by its host institutions MIT, ERCIM, Keio, and Beihang.

Section 2: Accommodations Features and Processes for Students Who Are Blind or Have Low Vision

2.1: General Guidance

Digital Practice supports a wide range of industry-standard accommodation tools for students who are blind or have low vision. We recommend educators supporting students who are blind or have low vision review the sections below to plan for providing additional support as needed. For students who are blind or have low vision who are not users of screen readers, a proctor may read the text and describe other on-screen material, such as images, as needed. In addition to the supported technologies detailed below, there are other options available that may meet the needs of some students without the use of additional technology or process changes. The following options could be helpful for students:

- **A larger monitor (or dual monitors)**—The size that works best will depend on the individual (24-inch to 27-inch screens seem to be the most common).
- **Increased DPI (i.e., dots per inch) from standard 100% to something larger**—This maintains the aspect ratio but makes everything very large (some trial and error may be needed to find what works best).
- **Built-in “magnify” option in the operating system**—With larger monitors, this can prove useful to some students to reduce scrolling (see [Appendix 5](#) for more detail).*
- **Third-party screen magnification software (i.e., MAGic®, ZoomText® Magnifier)**—This type of software may provide the custom tools to adjust the settings to suit the needs of the individual.*
- **Use of a supported third-party screen reader** (i.e., JAWS, NVDA, or VoiceOver)*

2.2: Screen Readers

Digital Practice is compatible with select screen readers with documented exceptions (as outlined in [Appendix 4](#)).

We recommend educators supporting students using a screen reader to preview content to ensure items are appropriate for the student and to prepare any additional supports—including tactile graphics—prior to assigning practice to students. Educators with access to Digital Practice can preview all session forms via the educator dashboard.

Students who are comfortable using screen readers will likely be able to independently complete most items without educator assistance. However, some students may continue to require additional assistance from educators, including those students who encounter items with graphics that require a tactile alternative.

*Please note that except for JAWS on Google Chrome™, NVDA on Firefox®, and VoiceOver on Safari®, Curriculum Associates has not extensively tested the third-party and operating system solutions across all supported browsers and platforms, and we cannot make any claims to their reliability and usability with Digital Practice.

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Safari® is a registered trademark of Apple, Inc.

Alternative Text and Tactile Graphics

The user-interface elements and item images used in Digital Practice have been enhanced with alternative text. This alternative text provides the information that students will need to answer the related questions if they cannot see the images. This text does not appear on screen visually. It can be read using the supported screen-reader software (i.e., JAWS, NVDA, and VoiceOver).

Some items—including those that are heavily dependent on complex graphics—will require an educator to supply the student with a tactile graphic or manipulative. For items that require a tactile graphic, the alternative text will briefly tell the student that there is a graphic and direct the student to ask their teacher for a tactile graphic.

In some instances, alternative text is provided for complex graphics. That may be sufficient for some students, but a tactile graphic or manipulative may be helpful to others. In this case, the alternative text will end with the following language: "A tactile graphic may help with this question."

There may be items with which alternative text is insufficient and a tactile graphic or manipulative cannot be provided. In this case, a teacher can advise a student to skip that practice item, and the student's report will mark it as "skipped." Please note that items that are skipped will be marked incorrect for the final score. Educators should take this into account when adjusting the student's final score appropriately. Educators can preview items that require a tactile graphic or manipulative or items where a tactile graphic or manipulative cannot be provided. This information is available in the assignment details and can be previewed via the educator dashboard to help educators prepare the necessary tactile graphic or manipulative or advise students on which items to skip in advance. For more information about how to create tactile graphics on demand, please see [this guidance brief](#).

Screen Readers Tested with Digital Practice

Management
Assess & Teach
Reports
Help

Don Addison

Digital Practice

[← Back to Find Lessons](#)

Session 1: Prepare for Dividing Whole Numbers and Multi-Digit Decimals

Assignment Card 2

Lesson

Lesson 5: Divide Whole Numbers and Multi-Digit Decimals

Estimated total run time
🕒 5–25 minutes

Student Lesson
[Preview](#)

Number of Questions
5

Standards and Depth of Knowledge

Question	Depth of Knowledge	Difficulty
Question 1	1	Basic
Question 2	1	Basic
Question 3	1	Medium
Question 4	1	Medium
Question 5	1	Challenge

Accessibility and Accommodations

Question	Details
Question 3	Base-10 Blocks are required for students who are blind and may be appropriate for students who are low-vision. All students may benefit from use of manipulatives.
Question 4	A tactile graphic is necessary for vision impaired students. Item requires students to use a mouse or pointer device.
Question 5	Item requires students to use a mouse or pointer device. Students using keyboard navigation or other assistive technology will not be able to complete these items.
Question 7	Item requires students to use a mouse or pointer device. Students using keyboard navigation or other assistive technology will not be able to complete these items.

The JAWS screen-reader software works with Windows® (best used with Google Chrome) and requires purchasing a license. Information about purchasing options is available for educators at [Freedom Scientific's online store](#). The following screen-reader software is available for both Windows and Mac at no additional cost:

- Windows (best used with Firefox):
 - [NVDA](#)
 - [MathCAT](#) (MathCAT is required to read any mathematics formatted as Mathematical Markup Language [MathML] using NVDA. Students may encounter this type of mathematics in Grades 1 and higher.)
- Mac (best used with Safari):
 - [VoiceOver](#)

For more information about these screen readers, see:

- [Surfing the Internet with JAWS!](#)
- [NVDA User Guide](#)
- [VoiceOver Getting Started](#)

Content Types and Recommended Screen-Reader Skills by Grade

Students may encounter the following types of content when using their screen reader to access Digital Practice:

- Tables
- Headings
- Lists
- MathML (For additional information on MathML, see [Appendix 3](#).)
- Images with alternative text and/or long descriptions
- Dialog boxes

The table below outlines helpful screen-reader skills by grade level.

Grades	Helpful Screen-Reader Skills
K+	Read item by item, forward and backward.
1+	Use tables with a screen reader.
2+	Use headings and lists with a screen reader. Understand long descriptions presented as headings followed by a description.
3+ (Mathematics Only)	Read simple mathematics expressions coded as MathML.
4+ (Mathematics Only)	Read and navigate grouped expressions coded as MathML.

Windows® is a registered trademark of Microsoft Corporation.

2.3: Refreshable Braille Displays

Digital Practice has been tested with JAWS, NVDA, and VoiceOver with specific browser combinations. For areas of the product that have been optimized for use with screen readers, Curriculum Associates is currently testing the validity and usability with refreshable braille displays. Each of the screen readers that have been tested can also be used with some refreshable braille displays. 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. Further usability updates to our products will be informed by our partnership with third-party advisors, other accessibility and Universal Design for Learning advisors, and our internal Usability Testing team.

Keep in mind that Digital Practice provides test content to screen readers as text, HTML, and MathML. NVDA and JAWS can be set up to convert MathML to Nemeth Braille on a braille display.

2.4: Color Contrast/Visual Design

This support does not need to be enabled, as these features are built directly into Digital Practice. Examples of color contrast and visual design that will benefit students who have low vision and/or have color blindness include:

- Meeting the WCAG 2.0 Level AA color-contrast requirements for text against a background and WCAG 2.1 Level AA color-contrast requirements in some places for non-text elements against a background
- Minimizing the use of colors that would cause problems for students with color blindness, particularly those with red-green color blindness
- Presenting items in a large, easily legible format specifically chosen for its readability

Contrast requirements for all new item developments are established to ensure compliance in newly authored content. However, there are documented exceptions (see [Appendix 4](#)) that may impact some students.

Section 3: Accommodations Features and Processes for Students Who Are Deaf or Hard of Hearing

All audio is optional in Digital Practice, and we recommend the use of this practice with students who are deaf or hard of hearing who can read.

Students who are deaf or hard of hearing may have the item directions signed to them. The use of auditory amplification devices, noise buffers, etc. are non-embedded universal supports available outside of Digital Practice. In all cases, we continue to recommend that a student's IEP, 504, and/or English learner plan be followed.

Section 4: Accommodations Features and Processes for Students with Learning Disabilities or Differences Such as Dyslexia or Dyscalculia

For students who have been identified as exhibiting risk factors for dyslexia or have received a formal diagnosis of dyslexia, Digital Practice has some relevant characteristics to help those students demonstrate their reading and mathematics proficiency on these assessments. Many of the practice assignments in Digital Practice engage students' auditory, visual, and kinesthetic pathways through multiple approaches, which can be beneficial to students with dyslexia or risk factors for dyslexia. Although these practice sets are not instructional tools in that their primary role is not to teach students, they do engage simultaneous multisensory pathways within the limits of computer-delivered practice assignments. Some of the ways these practice sets meet students' multisensory needs include:

- **Virtual manipulatives:** Many of these practice assignments have technology-enhanced item types that engage students with virtual manipulatives and tools, including:
 - Measurement and geometric tools (e.g., protractors and rulers)
 - On-screen number pads and calculators
- **Tech-enhanced item types:** These practice assignments include many innovative item types that involve kinesthetic engagement and leverage the value of a digital online assessment platform. Innovative item types include:
 - Drag-and-drop
 - Dropdown
- **Audio and visual:** The practice assignments have universal accessibility features that address audio and visual sensory needs and are available to all students.
- **Attentional anchors:** For students who require support for the stamina of their auditory, visual, or cognitive attention, Digital Practice Sets incorporate additional multisensory stimuli to anchor student attention, including:
 - Supporting images
- **Other supporting elements:** Students with dyslexia or risk factors for dyslexia may benefit from Digital Practice's untimed experience, interactive nature, multiple attempts to answer, and available audio support.

Section 5: Designated Audio Support, Test-Read/Read-Aloud Accommodations, and Text-to-Speech Browser Extensions

5.1: Text-to-Speech Browser Extensions

Although some third-party browser extensions may be able to read aloud some portions of the text in Digital Practice, the use of these extensions is not recommended at this time, as compatibility and usability show a high degree of variance based on the item type, extension, browser, hardware, etc. For Digital Practice, we recommend using the universal audio support outlined earlier in lieu of these extensions.

5.2: Test-Read/Read-Aloud Accommodations

Test-read/read-aloud accommodations may be appropriate for individual students. These options should be considered based on individual student needs and any IEP, 504, and/or English learner plan available for the student.

- Read text portions of items aloud to students.*
- Read question stems and the associated answer choices of mathematics items aloud to students.

*Educators providing accommodations, specifically human read aloud and scribing, need to be neutral in responding to the student while completing the practice set and must not lead a student to a particular item response.

Section 6: Digital Practice and Students with Severe Cognitive Disabilities

Digital Practice does not currently have an Alternate Assessment version built on Alternate Achievement Standards (commonly known as AAS). Additionally, Digital Practice has not been evaluated for use with students with severe cognitive disabilities who are nonspeaking and/or who use Augmentative and Alternative Communication (commonly known as AAC).

Section 7: Digital Practice and Print/Paper-and-Pencil Accommodations

Digital Practice items are technologically enhanced and include interactivity within many item types. Due to the interactive nature of these items, paper versions are not available. Digital Practice is comparable to the editable and printable practice pages available in the Student Worktext or for download on the Teacher Toolbox.

Section 8: Options for English Learners/Multilingual Learners

The Council of Chief State School Officers recommends that educators on a student's English learner team, alongside the student's parents or caregivers and the student, decide the most appropriate and necessary accommodations.

For English learners with disabilities, all team members collaborate to cite evidence of the student's accommodation needs and document those on the student's IEP, 504, and/or English learner plan. We recognize that parameters and laws vary by state. It is imperative that teachers follow the guidelines for their state, district, and school.

Consider the following criteria in determining accessibility supports for English learners: literacy levels in the student's home language, education received before coming to the US (e.g., limited or interrupted formal education), time spent in English-speaking schools, resources available in the student's home language, and cultural background.

Appendices

Appendix 1: Characters, Formats, and Tactile Graphics Used in Digital Practice Alternative Text

The table below lists characters and formats students may encounter while using a screen reader that relies on alternative text. If your student's preferred combination of screen reader, voice selection, browser, and settings does not read these as you would like, most screen readers will allow you to customize the pronunciation specifically. For example:

- **JAWS:** With JAWS running, press **Insert + F2** to open the list of JAWS managers. Select the Dictionary Manager from the list. You can also bypass the list of managers and open the Dictionary Manager at any time by pressing **Insert + D**.
- **NVDA:** With NVDA running, press **Insert (or customized NVDA key) N > Preferences > Speech Dictionaries**.
- **VoiceOver:** With VoiceOver running, press **Control + Option (or customized VoiceOver key) F8 > Speech > Pronunciation**. Remember to use the function key (i.e., Fn) to activate F8 if needed.

Character (Symbol)	Grade(s)	Usage	Example Pronunciation: VoiceOver/Safari with Default Settings	Example Pronunciation: NVDA/Firefox with Default Settings (Using the eSpeak NG Synthesizer That Is Packaged with NVDA)
-	K+ (Math Only)	minus	"minus"	"minus"
pt	4	pint	"point"	"p" "t"
oz	3–5	ounces, sometimes used to test understanding of the abbreviation	"ounce"	"oz"
lb	3–5	pounds, sometimes used to test understanding of the abbreviation	"pound"	"l" "b"
4:15	1	time of day, sometimes used to test reading time from a digital source	"four fifteen"	"four colon fifteen"

Tactile Graphics

In some cases, the alternative text suggests that a tactile graphic or physical manipulative may be helpful or is needed. Please see [this guidance brief](#) for information about how to create tactile graphics on demand.

Appendix 2: Keyboard Commands for Common Screen Readers

Screen-reader users who use JAWS, NVDA, or VoiceOver to navigate accessible areas of Digital Practice can use the information below for relevant keyboard shortcuts.

JAWS for Windows Keyboard Shortcuts—Best Used with Chrome Browser

Screen-reader users may reference [information on JAWS keyboard shortcuts](#).

NVDA for Windows Keyboard Shortcuts—Best Used with Firefox Browser

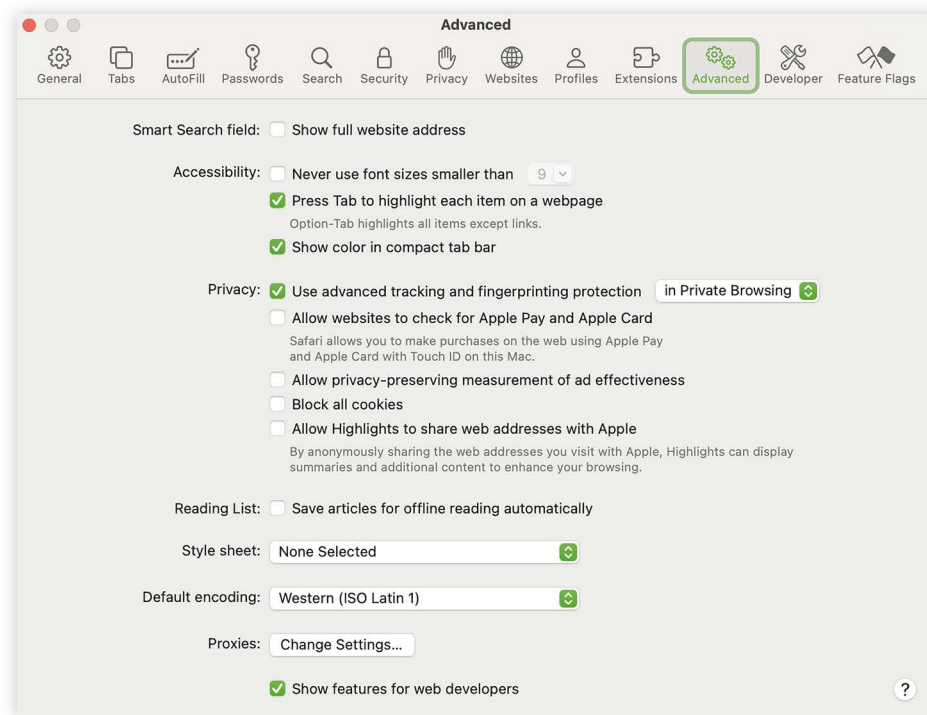
Please note that some keyboard shortcuts require using the NVDA modifier key. Additional information about the NVDA modifier key and keyboard shortcuts in NVDA are available in the [NVDA User Guide](#).

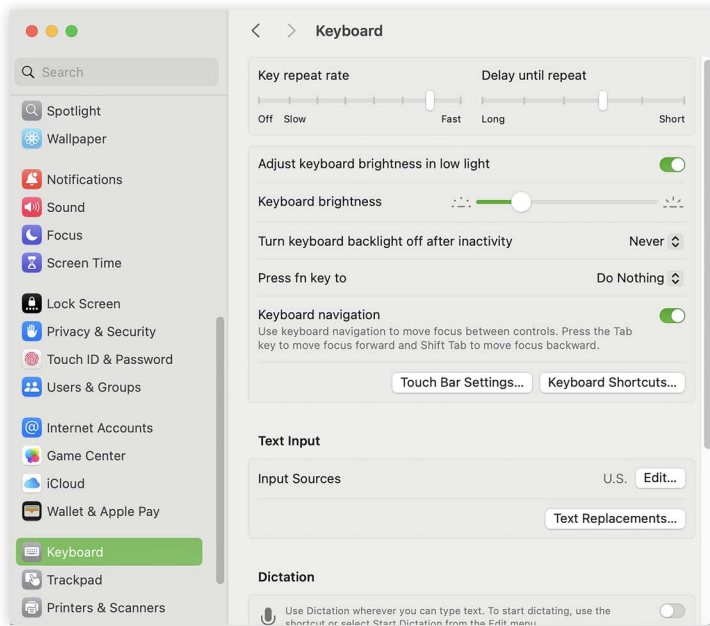
VoiceOver for Mac Keyboard Shortcuts—Best Used with Safari Browser

Please note that keyboard accessibility is NOT enabled by default on a Mac. To set up a Mac for students who rely on keyboard access, or to set up a Mac to try keyboard access as your students will experience it, keyboard accessibility can be enabled as follows:

How to Enable Tabbing for Keyboard Navigation in Safari:

1. Open the Safari browser.
2. Click on the **Safari** menu.
3. Select **Settings**.
4. Select the **Advanced** tab.
5. Select the checkbox next to “**Press Tab to highlight each item on a webpage.**”



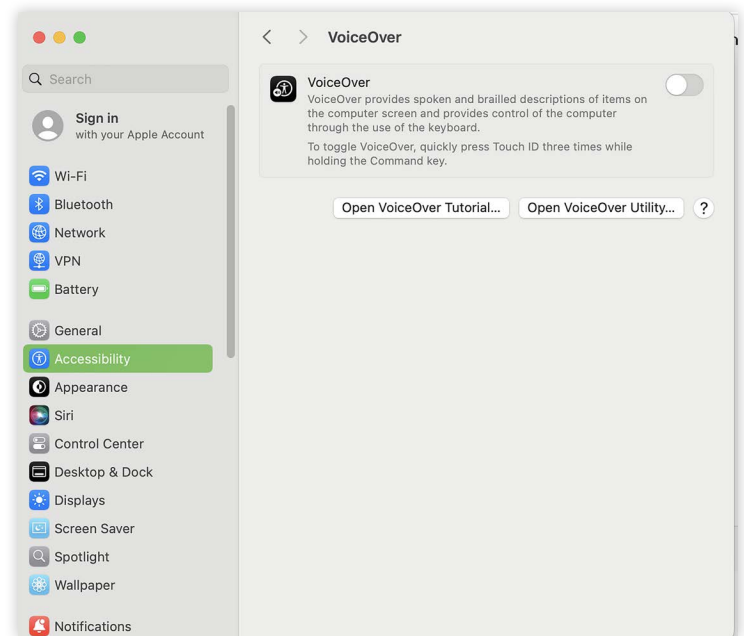


How to Enable Tabbing for Keyboard Navigation in System Settings:

1. Open System Settings.
2. Select **Keyboard**.
3. Toggle on “Keyboard navigation: Use keyboard navigation to move focus between controls. Press the Tab key to move focus forward and Shift Tab to move focus backward.”
4. The [Mac User Guide](#) provides additional information.

How to Enable VoiceOver on Mac:

1. Open System Settings.
2. Select **Accessibility**.
3. Select **VoiceOver**.
4. Toggle the “VoiceOver” button on.
Hint: You can also use **Command + F5** to turn VoiceOver on or off. Additionally, on newer MacBook® with Touch ID®, you can turn VoiceOver on or off by holding the Command key while triple-pressing Touch ID. This [Accessibility settings user guide](#) provides additional information about the Accessibility Settings panel on a Mac.



Reading and Navigation—General Keyboard Shortcuts

Please note that VoiceOver uses the **Control + Option** keys before each command. The combination is referred to as **VO** in the keyboard shortcuts, which can be found in [this guide to VoiceOver commands and gestures](#).

Appendix 3: Digital Practice—MathML

How to Read MathML in NVDA with Firefox and MathCAT

- To enter mathematics, use **Insert + Alt + M**.
- To explore in more detail, use the **down arrow**.
- To explore in less detail, use the **up arrow**.
- When mathematics content is encountered, the full equation will be read.
- To go to the previous or next item/segment, use the **left arrow** or **right arrow**.
- To exit mathematics, press the **Esc key**.

How to Read MathML in JAWS with Chrome

- To enter mathematics, press **space** or **enter** while on Math Viewer.
- To explore in more detail, use the **down arrow**.
- To explore in less detail, use the **up arrow**.
- When mathematics content is encountered, the full equation will be read.
- To go to the previous or next item/segment, use the **left arrow** or **right arrow**.
- To exit mathematics, press the **Esc key** or **Alt + F4**.

How to Read MathML in VoiceOver with Safari

Mathematics navigation is the same as the default navigation:

- To explore in more detail, use **Control + Option** (or customized VoiceOver key) **Shift + down arrow**.
- To explore in less detail, use **Control + Option** (or customized VoiceOver key) **Shift + up arrow**.
- To go to previous or next item, use **Control + Option** (or customized VoiceOver key) **left arrow** or **right arrow**.

Appendix 4: Coverage/Exceptions

Digital Practice is being developed with the aim of meeting WCAG 2.2 Level AA with documented exceptions. The following information captures our understanding of coverage and exceptions within Digital Practice:

Keyboard Navigation

Available for the system overall and supported in the following:

- Multiple choice, pulldown menu, multiple response, checklist/choice matrix, dropdown menu, drag-and-drop, short response, hotspot, and shading question types
- Digital Math Tools

Exceptions include:

- Graphing, number line, and data chart item types

Screen-Reader Support

Available for the system overall and supported in the following:

- Navigation elements
- Multiple choice, multiple response, checklist/choice matrix, and dropdown menu question types

Partially available or usability enhancements planned:

- Drag-and-drop questions have screen-reader controls available, but further usability improvements are planned.

Exceptions include:

- Graphing, number line, and data chart item types
- Protractor and ruler tools
- Some items may have insufficient alternative text and a tactile graphic or manipulative cannot be provided. See subsection ["Alternative Text and Tactile Graphics"](#) for more detailed guidance.

Color Contrast for Text

Text on buttons in their default unselected state, question text, and answer text meet WCAG 2.0 Level AA requirements.

Appendix 5: Using Magnification Features in Desktop Computers

Magnifier makes part or all of a screen bigger so students can see words and images better.

Enabling Magnifier in Windows

Turning Magnifier On and Off

- **To turn Magnifier on:** Press the **Windows logo key** and the **plus sign (+)** on the keyboard.
- **To turn Magnifier off:** Press the **Windows logo key** and the **Esc key**.
- **To turn Magnifier on and off using touch or a mouse:** Select the **Start** button, then select **Settings > Ease of Access > Magnifier**, and switch on the toggle under **Turn on Magnifier**.

You can also turn off Magnifier by selecting the **Close** button on the Magnifier toolbar.

Zoom In and Out and Use of Magnifier Views

When Magnifier is on, zoom in and out by pressing the **Windows logo key** and the **plus sign (+)** or **Windows logo key** and the **minus sign (-)**.

You can also zoom in and out using the mouse by pressing **Ctrl + Alt** and rotating the wheel on your mouse.

You can use Magnifier in three different views: full screen, lens, or docked. To change views, use the **Views** menu on the Magnifier toolbar.

- **Full-screen view** magnifies the entire screen. You won't be able to see the whole screen at the same time, but you'll see parts of it as you move around.
- **Lens view** is like moving a magnifying glass around the screen. You can change the size of the lens in Magnifier settings.
- **Docked view** works on the desktop. In this view, Magnifier is anchored to your screen. As you move around the screen, parts of the screen are magnified in the docking area even though the main part of the screen is unchanged.

More information about the Magnifier feature in Windows is available on the [Use Magnifier to Make Things on the Screen Easier to See page](#).

Enabling Zoom on the Mac

If items on the screen are too small, you can zoom in to make content larger and easier to see. You can zoom in on the entire screen or a portion of the screen.

1. To set zoom options, choose **System Settings > Accessibility > Zoom**.
2. Enable either of the following options:
 - To zoom with keyboard shortcuts, select “Use keyboard shortcuts to zoom.”
 - To zoom with your mouse or trackpad, select “Use scroll gesture with modifier keys to zoom.”
3. Decide where the magnified content appears with the “Zoom style” popup menu. You can display the magnified content in a window near the mouse cursor by selecting the picture-in-picture option (which allows users to zoom in on a small section while still viewing the entire screen). You also can display it on the entire screen by selecting full screen.

The [Mac User Guide](#) contains guidance on enabling Zoom appearance and control options.

Additional information on built-in operating system Zoom controls for iPads and Chromebooks can also be found at the links below:

- [iPads](#)
- [Chromebooks](#)