



Zearn Accessibility Guide

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Zearn for All

Zearn® is the top-rated math learning platform that helps kids explore concepts, discover meaning, and make sense of math. We strive to be accessible for all students, in line with our mission to ensure all students love learning math. This document provides information and decision-making support for educational teams, including administrators, teachers, and special service providers, who are working in partnership with families on how to best provide access to Zearn Math for students with disabilities or unique learning needs.¹ Zearn's commitment to accessibility is ongoing and, as such, we will continue to make updates to ensure our materials are usable for all students, including those with disabilities.

¹ Disclaimer

References to third-party products or services in this document are for your convenience only. Zearn makes no representations or warranties about the quality or suitability of referenced third-party products or services. You are responsible for, and accept any risks associated with, visiting third-party websites or using third-party products or services referenced in this document. Trademarks or trade names listed herein are for reference only and are the property of their respective owners.

Support for Auditory and Reading Comprehension

Students with needs related to expressive and receptive language in communication may benefit from individualized support while accessing Zearn digital lessons and paper based materials. To gain full understanding of concepts in Zearn lessons, students must know when and how to navigate web content, engage and understand math concepts presented on a computer screen, and present their thinking in the digital platform, and on paper. When engaging in student specific planning, it may be helpful to consider Zearn-designed features, supplementary assistive technology, and potential individual instructional accommodations.

Accessible Design

Zearn Math was developed with a wide range of students in mind and includes accessibility features that ensure students with cognitive, physical, and communication challenges can use self-paced, software-based lessons. The following features in Zearn's digital lessons and paper based materials may support students with struggles related to auditory comprehension, receptive language, and reading comprehension:

1 Closed Captioning

Closed captioning for all interactive student videos is available for all Missions for all grades. Closed captioning allows students to turn on an English text transcription of all dialogue and other relevant audio information in the Zearn Math video player.

2 Audio Buttons

All instructional prompts and directions can be read aloud by selecting embedded Audio Buttons. Audio is provided by a Zearn on-screen teacher or computer generated voices, depending on the prompt.

Should the bar for Tape B be longer or shorter than the bar for Tape A? 🔊

Longer 🔊

Shorter 🔊

The same length 🔊

Embedded audio prompts support emerging readers, students unable to decode language, and students struggling with visual perception. Audio buttons are not available for all text. Where audio buttons are not available, students can highlight text to be read aloud using browser text to speech tools. In Zearn Kindergarten lessons, prompts are automatically read aloud. Students can hear the

prompt read aloud again using the button in the top left corner of the screen (a picture of the on-screen teacher or Brainy), or by clicking the audio button to the right of the prompt.



Count the cubes. Choose the number that tells how many. 🔊

3 Zoomability

Students may resize Zearn digital pages up to 200% through browser settings to view images or text closer up without losing any content, especially when viewing on a larger screen. Directions for zooming in/out in popular web browsers:

- ☐ [Safari®](#)
- ☐ [Chrome®](#)
- ☐ [Firefox®](#)

4 Accessible PDFs

Zearn's paper-based student materials are available in both English and Spanish and include Student Notes, Exit Tickets, Goal Trackers, and Assessments. Zearn paper based materials, including Assessments, have alternate text descriptions embedded for images.

Supplementary Assistive Technology

Access to Supplementary Technology may help students with disabilities access Zearn lessons. The following supplementary assistive technologies and software support auditory comprehension, receptive language, and reading comprehension:

1 Read & Write

Read & Write by Texthelp® is a browser plug-in that offers help with everyday tasks like reading text out loud, understanding unfamiliar words, researching assignments and proofing written work. When downloaded and enabled for use, it can enable a user to translate text inside of Zearn, use a picture dictionary to visualize problems, translate text, and read text that is not supported by Zearn audio buttons. Premium features require an annual fee.

Translator

tomatoes

- jitomate
- tomate
- jitomate

Picture Dictionary

tomatoes



Choose the tape diagram that represents the word problem. 

Ms. Ochoa picks 6 tomatoes from her garden. She puts 3 tomatoes in each bag. How many bags of tomatoes does Ms. Ochoa fill?

6 tomatoes

? tomatoes

3 bags

6 tomatoes

3 tomatoes

? bags

Enter 

2 OpenDyslexic

OpenDyslexic is a free, open source font created to increase readability for readers with dyslexia. The typeface includes regular, bold, italic, and bold-italic styles, and 2 typefaces: OpenDyslexic, and OpenDyslexic-Alta. OpenDyslexic is created to help with some of the symptoms of dyslexia. Letters have heavy weighted bottoms to indicate direction, so readers can quickly figure out which part of the letter is down which aids in recognizing the correct letter. The unique shapes of each letter can help prevent confusion through flipping and swapping.

- ☐ To use with Zearn and Google Chrome®, download and install the OpenDyslexic **Chrome® extension** overlay, and toggle “On”

How many fives did we count? 

58



0 5 10 15 20 25 30 35 40 45 50 55 60

fives

3 Selected Text Read

For text that is not supported by an audio button in Zearn, users may benefit from turning on an operating system tool for reading selected text.

- ☐ **Spoken Content** is available for Mac® users
- ☐ **Narrator** can be turned on for Windows® users
- ☐ **Select to Speak** can be used for Chromebox® users

4 Voice Typing

Students cannot use voice dictation to enter text into a text box in Zearn digital content using third party technology or by enabling operating system tools. Users may create voice generated numbers or text answers to copy and paste into Zearn by:

- ☐ Using a Google Doc® with **Voice Typing enabled**
- ☐ Using a Word Processing document in a separate application. Directions are available for **Mac OS®** and **Windows®**

5 Hand Talk

Hand Talk® is a mobile application that translates text and speech into American Sign Language (ASL) using an animated avatar powered by artificial intelligence. The app is free to download and offers basic translation features at no cost, while advanced features and additional translation services may require a subscription or in-app purchases.

6 Screen Readers

Screen readers allow users to access the text that is displayed on the computer screen with a speech synthesizer or braille display. A screen reader is the interface between the computer's operating system, its applications, and the user. The user sends commands by pressing different combinations of keys on the computer keyboard or braille display to instruct the speech synthesizer what to say and to speak automatically when changes occur on the computer screen. Some digital manipulatives may present a challenge for those using exclusively screen reader keystroke commands.

The following resources may be used to enable Screen Readers:

- ☐ Mac OS®: **VoiceOver®**
- ☐ Windows®: **NVDA®**
- ☐ Chromebook®: **Chromevox®**

7 Refreshable Braille Displays

Braille displays provide access to information on a computer screen by electronically raising and lowering different combinations of pins in braille cells. A braille display can show up to 80 characters from the screen and is refreshable—that is, it changes continuously as the user moves the cursor around on the screen, using either the command keys, cursor routing keys, or Windows and screen reader commands.

Content inside of a Zearn lesson that is accessible and understandable by a screen reader can be presented on a refreshable braille display.

8 Scanning Pens

A scanner pen or reader pen is a portable tool to support independent reading and literacy. When scanned over a printed text, words can be read out with natural speaking voices and defined with dictionaries instantly.

Students who benefit from audio buttons, using a Screen Reader, or narrated text may benefit from using a scanning pen while completing paper based lessons or assessments.

9 Color Customization and Filters

Students with receptive visual preferences may benefit from changing the hue of the screen when working with Zearn. When using an apple tablet running iOS10 or higher, a color filter can be applied in the Accessibility settings. This can help students who are color blind or have aversions to specific colors.

- ☐ Mac OS®: [Color Filters](#)
- ☐ Google Chrome®: [Color Veil](#)

Instructional Accommodations

When implementing Zearn, teachers may make an alteration of environment, curriculum format, or equipment that allows an individual with a disability to gain access to content and/or complete assigned tasks. Instructional accommodations should only be chosen and implemented by a student's Individualized Education Program. The following accommodations may support auditory comprehension, receptive language, and reading comprehension:

1 Paper Presentation

All core student-facing K-8 paper-based instructional materials are available in various accessible formats, including large print, Braille, and tactile, from APH.org (American Printing House). These materials are on file with the National Instructional Materials Accessibility Center (NIMAC).

To Order Accessible Materials from American Printing House:

1. [Navigate to the APH site for Accessible Textbooks](#)
2. Search the National Instruction Materials Center (NIMAC) for Zearn NIMAS files. Filter by Publisher, “Zearn” and Copyright Year “2023.” For Zearn Kindergarten materials, use Copyright Year “2024.”
3. NIMAC Authorized Users: Select the Grade and Materials Needed. Assign to APH as your Accessible Media Producer
4. Non NIMAC Authorized Users: Contact your local district or state provider for accessible materials. Share the Identifier and ISB number(s).

2 Read Aloud

Students who struggle with word decoding and/or reading comprehension may benefit from having question prompts read aloud from paper based materials. Students who are blind or have limited sight may benefit from hearing descriptions of graphs and visual representations of problems or math concepts.

3 Separate Location or Quiet Space

When completing digital lessons, some students may benefit from working in a separate space where they can process out loud, work without headphones, input text or answers with their voice.

Support for Navigation and Engagement

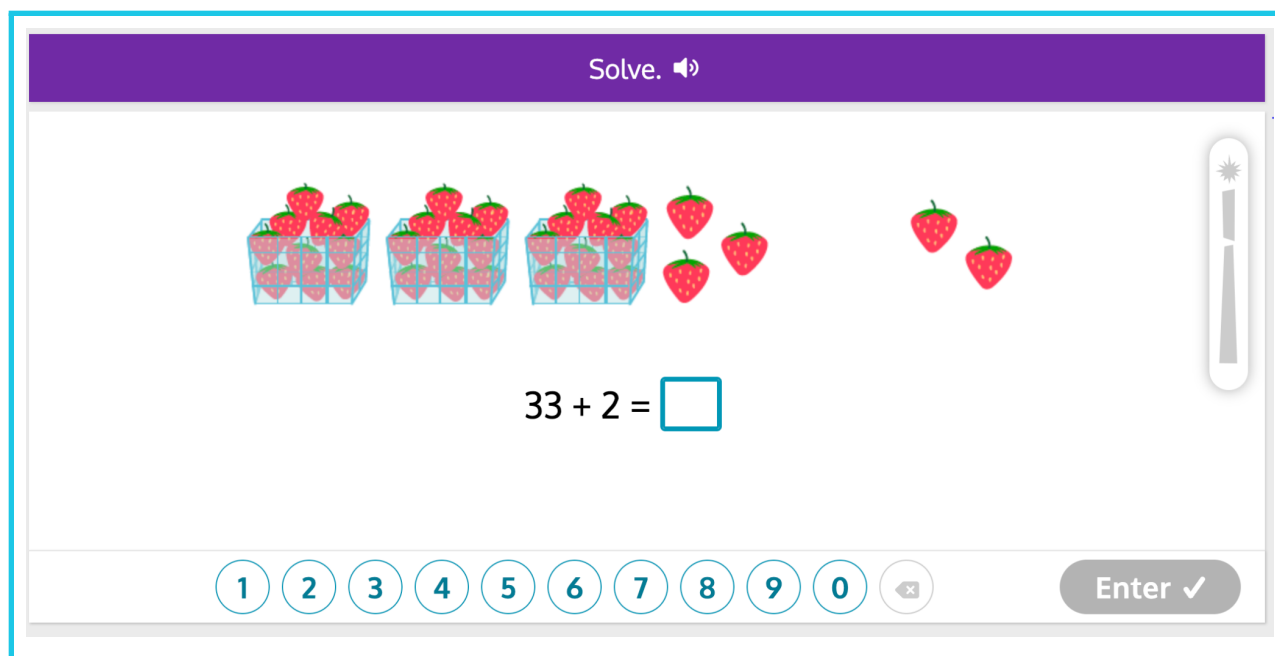
Zearn users with barriers related to mobility or fine motor skills may benefit from using assistive technology devices or accommodations to increase access to Zearn Math web content in digital lessons. If using a mouse is a barrier for a student, supplementary technology can support alternative ways to navigate through digital content including digital switches, keyboard keys, and alternative cursor control technology.

Accessible Design

The following accessibility features in Zearn digital lessons and paper based materials support students with the physical actions needed to navigate and interact with digital lessons.

1 Touch Screen

Students who benefit from using a touch screen to navigate web based material can access Zearn on a iOS or Android based tablet. When students complete questions on Zearn, they have the option to use Zearn's on-screen keypad, rather than a computer keyboard, to type and submit their answers.



2 Keyboard Only

Users who wish to use only a keyboard are able to do so for most lesson's Learning Lab™, Math Chat™, and Tower of Power™. Elements can be navigated by using Tab and Shift + Tab. Some drag and drop items, and interactive graphs require the use of mouse, trackball, or support from a screen reader.

Supplementary Assistive Technology

The following Assistive technologies may help individual students with the physical actions needed to navigate and interact with Zearn lessons:

1 Trackball Mouse

Students who struggle with manipulating a mouse may benefit from using a mouse that includes a trackball, large buttons, or similar technology. Trackball mice allow users to move and position the mouse cursor on the computer screen while using fine or gross motor movements of the hand, arm, or foot. This technology is compatible with all keyboard mouse functionality in Zearn. Examples include the BIGTrack 2 by AbleNet,[®] n-ABLER[®] Rollerball, and the Traxsys[®] Roller II.

2 Adaptive Switch

A switch may be helpful for users with limited mobility or fine motor control. Multiple button or function switches increase the ease of navigation of Zearn web content. A multiple button or multiple input switch is needed to navigate and operate. An example is the Blue2 Bluetooth Switch. Directions for programming switches are available for:

- ☐ [iOS[®]](#)
- ☐ [Android[®]](#)
- ☐ [Mac[®]](#)
- ☐ [Chromebook[®]](#)

Instructional Accommodations

The following accommodations might support individual students with physical actions needed to participate in Zearn lessons:

1 Scribe

Students with scribe accommodations may need support transferring math thinking and written answers when prompted to work in a Zearn workbook or accompanying paper based problems.

2 Breaks

Students may benefit from structured breaks when completing digital lessons or rest or refocus. All Zearn lessons can be paused and/or replayed.

Support for Attention, Executive Functioning, and Cognition

Zearn users with barriers related to sustaining attention, organization, or learning new information may benefit from using assistive technology devices or accommodations to increase access to Zearn web content in digital lessons and paper based resources. When creating an individualized program for learning math, Zearn's accessible design and instructional accommodations may accelerate lasting understanding of math concepts.

Accessible Design

The following design features in Zearn digital lessons and paper based materials support students with attention, executive functioning, and cognition challenges:

1 Boosts

Every Zearn Math Digital Lesson features built-in [Boosts](#), which offer personalized support to the student through scaffolding from prior grades or units. Boosts provide in the moment feedback and support for students.

2 Concepts Develop from Concrete to Abstract

Mathematical concepts are introduced simply, concretely, and repeatedly, with complexity and abstraction developing over time. Students begin with concrete examples, and transition to diagrams and tables before relying exclusively on symbols to represent the mathematics they encounter. This design allows learners who struggle with abstract ideas to build understanding of math concepts in stages, starting with concrete objects, and often physical manipulatives.

3 Foundational Content

Students may benefit from access to foundational content to support their understanding of grade-level content. In this case, Zearn has carefully determined guidance on foundational lessons you can introduce to students, both digitally with a feature called Bookmarking and suggested materials outlined in our Foundational Lesson Guidance:

Teachers can easily [bookmark](#) foundational lessons that students can access in the [Math Library](#). The Math Library is a content bank that includes [guided](#) and [independent](#) practice activities for every topic of K–8 math. After students complete foundational content in the Math Library, they can return to the [Student Feed](#) to complete grade-level content

4 Paced Information Presentation and Guided Processing

Materials are designed to reduce extraneous visuals and content. Students with low working visual memory, difficulty with attention, or other struggles relating to executive functioning can thrive by accessing the right information at the right time, while using Zearn. Prompts are given and highlighted in a sequential process that limits unnecessary distractions. For students who need extended time, timing can be turned off for Sprints.

5 Universal Design for Learning Strategies

Each Concept Exploration includes additional strategies for learners who might benefit from alternate access pathways. These lesson-specific supports can be used as needed to help students succeed with a specific activity, without reducing the mathematical demand of the task, and can be faded out as students gain understanding and fluency. Each strategy aligns to one of the three principles of UDL - Multiple Means of Engagement, Multiple Means of Representation, and Multiple Means Action and Expression - and includes a suggested strategy to increase access and eliminate barriers.

6 Guided Notes and Graphic Organizers

All Zearn lessons include [guided notes](#) to help keep students focused and organized. Zearn uses graphic organizers in digital content and paper based materials to help students organize and internalize information.

7 A Platform for Teacher Collaboration

All Zearn Math lessons have published Mission Overviews, Lesson Plans, Fluency exercises, Whole Group Word Problems, and Optional Problem lessons. Collaborating teachers can access materials when planning to identify accommodations and individualized pathways for individual students.

Instructional Accommodations

The following instructional accommodations may be helpful to students with attention, executive functioning, or cognition challenges:

1 Checklists and Self Monitoring Activities

Self-monitoring checklists may be helpful to determine the best approach to solve a problem, guide problem solving process, or evaluate work habits or progress made toward a goal.

2 Physical Math Manipulatives

All students benefit from access to physical manipulatives. Students with challenges related to attention, executive functioning, or cognition, may benefit from increased time using physical manipulatives while building understanding of math concepts through pictorial representations or

abstract symbols. [Zearn manipulative kits](#) are designed to include all of the essential concrete manipulatives classrooms need, and each grade-level kit connects with Zearn Math activities and lessons for each unit of instruction.