Accessibility Strategies for Remote Teaching and Learning

A Guide for Teachers to Support Students and Families

One of the foundational principles of the Smarter Balanced Assessment Consortium (Smarter Balanced) system is **accessibility** for students – multi-tiered resources and strategies that ensure equitable and valid access for students to instructional and assessment content. This Guide includes 54 accessibility strategies that can be used by teachers, students, and families to support direct/synchronous and indirect/asynchronous remote teaching and learning. The accessibility strategies described here are based on accessibility resources available on the Smarter Balanced summative and interim assessments and detailed in the [Usability, Accessibility, and Accommodations Guidelines](#).

The purpose of this document is to provide a description of what accessibility resources look like in direct/synchronous and indirect/asynchronous teaching and learning environments. **Direct/synchronous remote teaching and learning** describes forms of accessibility strategies, instruction, and assessment that occur at the same time, but not in the same place and are supported by teachers or family members. **Indirect/asynchronous remote teaching and learning** environment provides students with accessibility strategies, instruction, and assessment that can be used by students independently. Smarter Balanced developed these strategies in collaboration with the State Network of Educators; Smarter Balanced's Accessibility, Bias, and Sensitivity Committee; and other experts in the field based on the system of universal tools, designated supports, and accommodations currently available on Smarter Balanced assessments.

Universal tools are accessibility resources that are either provided as digitally-delivered (embedded) components of the test administration system or separate from it (non-embedded). Universal tools are available on the assessment to all students based on student preference and selection. Table 1 includes 18 accessibility strategies related to universal tools with their descriptions as well as selected considerations for direct/synchronous and indirect/asynchronous remote teaching and learning. Each strategy in the table is linked to its more detailed description in the later section of the Guide.

Table 1. Universal Tools at a Glance

Universal Tool	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
Breaks (embedded/non-embedded)	Students may decide to pause during classwork or during a test session based on their needs.	• Model breaks. • Allow students to use fidget devices. • Give students brain breaks.	• Students pace themselves during learning. • Students move about the room or take a short break to refocus.
Calculator (embedded)	An embedded, fully accessible on-screen digital calculator can be	• Model using calculators. • Allow students to choose when to use a	• Students practice using calculators to do basic calculations in

Universal Tool	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
	accessed for calculator-allowed items when students select the calculator button.	calculator to best support their accessibility needs. • Use calculators to develop students' fluency with arithmetic operations, algorithms, and numerical relationships and enhancing their motivation.	multi-step mathematics processes. • Students use calculators as tools that they can turn to for help, not just fast answers.
Digital Notepad (embedded)	This tool is used for making notes about topics, information, or items.	• Provide students with note-taking tools during instruction. • Model using and practice electronic/online tools with students. • Support students in the use of different tools to create notes or computations.	• Students use note-taking tools to ask questions to advance learning. • Students organize ideas by listing and prioritizing topics.
English Dictionary (embedded/non-embedded)	An embedded or non-embedded English dictionary may be made available for the full write portion of an ELA/literacy performance task.	• Model and practice using electronic and paper dictionaries to aid in writing. • Model the different parts of a dictionary entry. • Model the strategy of creating glossaries with terms, definitions, and examples.	• Students use an electronic or paper English dictionary to look up word meanings, parts of speech, and usage of words. • Students use an electronic or paper dictionary to create glossaries.
English Glossary (embedded)	This tool is for grade/context-appropriate definitions of specific construct-irrelevant terms that are shown in English.	• Support students' understanding of definitions in footnotes, margins, photos, charts, and illustrations. • Model using glossaries and related applications to clarify word meanings. • Pre-teach new concepts by using English glossaries.	• Students use embedded definitions and glossary sections in textbooks. • Students create their own glossaries of terms, definitions, examples, etc.

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Universal Tool	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
Expandable Passages and Items (embedded)	Each passage/stimulus or item can be expanded so that it takes up a larger portion of the screen when the student selects one of the two arrows in the pane.	• Create a document for students to work from, in which a passage or stimulus takes up a large portion of the page. • Model using a dual screen and expanding windows. • Visually simplify text provided in classroom activities.	• Students use separate pages for passages and activities that connect to the passages. • Students practice using text with and without supporting materials through chunking and questioning aloud.
Global Notes (embedded)	This tool is a notepad that is available for the duration of an ELA performance task in which students complete a full write.	• Provide students with note-taking skills and annotation tools during instruction. • Model how to organize ideas by listing and prioritizing topics. • Model how to identify main and secondary ideas in the text.	• Students create one- or multiple-column notes to record ideas and make connections to plan writing tasks. • Students can use note-taking tools to ask questions about writing tasks and generate ideas.
Highlighter (embedded)	A digital tool for marking desired text, item questions, item answers, or parts of these with a color.	• Teach how to denote main ideas, supporting details, introductions, and conclusions. • Model using digital and manual highlighters to understand the purpose of how to use selective highlighting/underlining. • Allow students to choose which type (digital and/or standard) of highlighter best supports their learning.	• Students use highlighters to distinguish useful/meaningful text when completing an assignment. • Students use highlighters to connect important ideas.
Keyboard Navigation (embedded)	Navigation throughout text can be accomplished by using a keyboard or an adapted keyboard.	• Teach keyboarding basics for students to become familiar with the placement of buttons. • Model the use of key tools that a keyboard can provide.	• Students use keystrokes and/or key commands to navigate the computer. • Students access software programs and Internet applications using keyboard navigation.

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Universal Tool	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
		• Provide direct instruction and practice using a keyboard.	
Line Reader (embedded)	The student uses an onscreen universal tool to assist in reading by moving the tool over each line of text as it is read on the screen.	• Support students in directional tracking in order to process information accurately. • Model using electronic tools for tracking information. • Model and practice using fingers, rulers, or pointers to track information on paper.	• Students can use this computer application or a manipulative to track instructional texts line by line. • Students use a tool to carefully read through all the answer choices.
Mark for Review (embedded)	This tool allows students to flag items for future review during the assessment.	• Model circling, starring, highlighting, or placing a check mark by an item about which a student is unsure. • Model marking a question when students come across difficult problems. • Model using sticky notes to mark places for review.	• Students use paper sticky flags to notate areas for review or rereading. • Students use an electronic bookmark in an eBook to return to a section.
Math Tools (embedded)	These digital tools (embedded ruler and embedded protractor) are used for measurements related to math items.	• Coach students on how to select specific tools for math problems. • Use rulers, protractors, and physical manipulatives to build knowledge of math concepts. • Teach using concrete-to-representational-to abstract illustrations/examples to develop a concrete level of understanding of a new math concept or skill.	• Students use rulers, protractors, and manipulative materials to complete graphs, rays, and circumferences. • Students use online interactive math tools to develop the sense of measurement.
Scratch Paper (non-embedded)	Scratch paper to make notes, write computations, or record	• Provide students with a variety of note-taking	• Students create notes or work on computations.

Universal Tool	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
	responses may be made available to students.	styles and problem-solving strategies. • Model using electronic tools or scratch paper that assist with making notes, writing computations, and solving problems. • Teach how to create an outline for the different kinds of writing and how to organize ideas by listing all ideas for each topic and then prioritizing them. Teach how to create an outline for the different kinds of writing.	• Students create graphic organizers to organize ideas.
Spell Check (embedded)	A writing tool for checking the spelling of words in student-generated responses.	• Proofread students' work and have students make specific corrections. • Model proofreading written responses. • Model specific uses for spell check, including applications, since students may not catch all errors.	• Students proofread other students' work, as well as their own, using a dictionary or a spell-check device. • Students use rubrics to evaluate their own work, including checking for spelling, grammar, or content.
Strikethrough (embedded)	This tool allows students to cross out answer options.	• Model the process of elimination for answer options. • Model how to link correct answers to concrete elements in a reading. • Model how to identify less relevant parts of text.	• Students cross out the incorrect answers to multiple-choice items. • Students cross out incorrect words in sentences.
Thesaurus (embedded/non-embedded)	A thesaurus contains synonyms of terms, which a student can access while interacting with text included in the assessment.	• Explain the difference between dictionary, thesaurus, and glossary. • Model and practice using an electronic	• Students use a thesaurus to enrich their writing vocabulary. • Students use a thesaurus to look up

Universal Tool	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
		thesaurus to aid in writing. • Highlight the different parts of a thesaurus.	synonyms and antonyms.
Writing Tools (embedded)	Select writing tools (i.e., bold, italic, bullets, undo/redo) are available for all student-generated responses.	• Model specific tools with students. • Provide opportunities for students to practice writing on an electronic word processing program. • Provide opportunities for students to format and revise a typed document.	• Students use digital word processing tools to format their writing. • Students practice formatting an electronic document.
Zoom (embedded)	A tool for making text or other graphics in a window or frame appear larger on the screen.	• Model how to navigate materials when using zoom. • Gradually increase or decrease the zoom to best support students' needs. • Provide large-print versions of textbooks, or other text, as needed.	• Students use two-finger zoom on their tablet or touch screen. • Students use zoom features within web browsers and other programs.

Designated supports are accessibility resources that are available for use by any student for whom the need has been indicated by an educator (or team of educators with parent/guardian and student). Designated supports are either provided as digitally-delivered (embedded) components of the test administration system or separate from it (non-embedded). Table 2 includes 21 accessibility strategies related to designated supports with their descriptions as well as selected considerations for direct/synchronous and indirect/asynchronous remote teaching and learning. Each strategy in the table is linked to its more detailed description in the later section of the Guide.

Table 2. Designated Supports at a Glance

Designated Support	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
Amplification (non-embedded)	The student adjusts the volume control beyond the computer's built-in settings using headphones or other non-embedded devices.	• Use amplification systems to help students access auditory materials and instruction and improve	• Students use amplification and/or assistive technology to increase the volume provided in the instructional content.

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		understanding of content. • Allow the lesson to be amplified to a higher audio level than that of background ambient noise. • Allow extra time for processing information.	• Students use headphones, assistive technology, noise buffers, or white noise machines to adjust the volume.
Bilingual Dictionary (non-embedded)	A bilingual/dual-language word-to-word dictionary is a language support.	• Teach word meaning and vocabulary. • Model how to use bilingual dictionaries. • Be mindful of additional time needed when using bilingual dictionaries.	• Students access content available in other languages. • Students formulate written answers.
Color Contrast (embedded/non-embedded)	Based on student needs or preferences, color contrast enables students to adjust a screen or printed background and/or font color.	• Provide instructional materials that have different font or background/paper color(s). • Model to change color contrast choices when appropriate. • Consider how students interact with instructional materials and guide students to use an appropriate tool.	• Students use built-in accessibility features in an operating system to reverse contrast or change color of background and/or font color of computer screen. • Students use websites that enable them to change background and/or font color of application.
Color Overlays (non-embedded)	Color transparencies are placed over a paper-based assessment or a computer screen.	• Model how to select color overlays based on students' needs. • Be mindful that the choice of color may vary between activities and throughout the student's day. • Remember that students can benefit from using color overlays even if they	• Students place color transparencies over instructional content. • Students place color transparencies over a computer screen or tablet.

Designated Support	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
		have limited access to technology.	
Illustration Glossaries (embedded/non-embedded)	Illustration glossaries are provided for selected construct-irrelevant terms for mathematics.	• Use illustrations and other visual aids to demonstrate instructional content. • Model how to create and use glossaries with illustrations to find the meanings of content specific words. • Use some illustration resources with caution, as their quality, precision, and cultural authenticity may vary.	• Students use illustration glossaries to facilitate transferring knowledge/skills from their primary language to English. • Students use illustration glossaries to clarify vocabulary during instruction.
Magnification (non-embedded)	The size of specific areas of the screen (e.g., text, formulas, tables, graphics, and navigation buttons) may be adjusted by the student with an assistive technology device or software.	• Provide large-print versions of textbooks or other text and explain the different uses of magnification and zoom. • Gradually increase or decrease the magnification to best support students' learning needs. • Model how to navigate materials when using magnification.	• Students use two-finger zoom on their tablet or touch screen depending on their type of device. • Students use zoom features within web browsers and other programs.
Masking (embedded)	Masking involves blocking off content that is not of immediate need or that may be distracting to the student. Students are able to focus their attention on a specific part of a test item by masking.	• Create a clean document for students to work from that is not too "busy" or visually crowded with distracting information. • Reduce the number of unnecessary graphics for students who prefer less visual crowding.	• Students use a masking device that covers up sections of text before/after they read to maintain visual attention. • Students use paper or other manipulatives to block test questions and decrease distractions.

Designated Support	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
		• Model how to use a masking device that covers up sections of text before/after students read to maintain visual attention.	
Medical Supports (non-embedded)	Students may have access to medical supports for medical purposes (e.g., Glucose Monitor). The medical support may include a cell phone, and should only support the student during testing for medical reasons.	• Monitor and attend to conditions such as lapses in alertness, concentration, and focus, which may interfere with learning. • Use of electronic devices may require a separate setting to avoid distractions. • Educate yourself about how to respond to various health conditions students may have.	• Students use their electronic devices or other medical supports to periodically monitor health conditions to be able to participate in instruction without risks to their health. • Students monitor and attend to their health conditions.
Mouse Pointer (embedded)	This embedded support allows a user to increase the size and change the color of the mouse pointer.	• Give students ample opportunity to practice during daily instruction with the size and color of the mouse. • Keep in mind that this resource is recommended for students with visual impairments, perceptual challenges, or motor impairments. • Educate yourself and students about various options of the mouse pointer.	• Students change the size and color of their mouse to more readily find their mouse pointer on the screen. • Students practice learning with their preferred size and color of the mouse pointer.
Noise Buffers (non-embedded)	Ear mufflers, white noise, noise cancelling headphones, earplugs, and/or other equipment	• Model the purpose and uses of noise buffers. • Be mindful that a noise buffer can block	• Students regularly wear equipment to reduce environmental noise during regular

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	used to block external sounds.	background noises making dialogue more audible for students. • Model using a noise buffer for students with speech/hearing, behavioral, learning, sensory, or auditory processing disabilities.	instruction and assessments. • Students who use noise buffers for learning stay academically engaged by reducing external distractions.
Read Aloud (non-embedded)	Text is read aloud to the student by a trained and qualified human reader.	• Read small chunks of text aloud and ask students comprehension questions after each portion of text. • Have students engage in shared-paired text-read aloud. • Have students practice instances where they would ask a reader to slow down or repeat text.	• Students listen to a prerecorded audio (audiobook) of text or a book. • Students work autonomously using text-to-speech applications.
Read Aloud in Spanish (non-embedded)	Spanish text is read aloud to the student by a trained and qualified human reader.	• Support listening skills using read-aloud materials in Spanish, combined with checking for understanding. • Read small chunks of text in Spanish aloud and ask students comprehension questions after each portion of text. • Have students practice instances where they would ask a reader to slow down or repeat text.	• Students listen to a prerecorded Spanish audio interpretation (audio book) of text or a book. • Students work autonomously using text-to-speech in Spanish applications.
Scribe (non-embedded)	Students dictate their responses to a human who records verbatim what they dictate.	• Have students engage in scribe activities—dictate instructional content to their peers	• Students use scribing speech recognition technology. • Students draw a picture on the topic to

Designated Support	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
		and then check their work. • Model the use of scribing speech recognition technology to encourage writing that is more thoughtful and deliberate. • Keep in mind that students with attention deficits may be able to engage and complete assignments more efficiently with a scribe.	assist with understanding of the content.
Separate Setting (non-embedded)	The test location is altered so that the student is tested in a setting different from that made available for most students and is conducive to their learning needs.	• Have students engage in small group, pair, or individual activities. • Keep in mind that some students may benefit from being in an environment that allows for movement, such as being able to walk around. • Keep in mind that other adjustments to the environment may include special lighting, acoustics, and adaptive furniture.	• Students work in an alternative environment. • Students' separate setting may include a calming device or support as recommended by educators.
Simplified Test Directions (non-embedded)	The test administrator simplifies or paraphrases the test directions found in the Test Administration Manual according to the Simplified Test Directions guidelines.	• Read directions aloud in paraphrased, clarified, or simplified form. • Use the "I do, you do, we do" strategy to reinforce students' understanding of what they are expected to do. • Provide the directions in steps so that the	• Students use think-alouds through explicit explanations of the steps of problem solving. • Students rephrase directions for themselves.

Designated Support	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
		directions are easier for students to follow.	
Streamline (embedded)	Reduces the amount of text on the screen in an alternate, simplified, format in which the items are displayed below the stimuli rather than side by side in two different panes.	• Provide access to documents in which the text is only presented in a sequential format. • Ensure that braille materials are presented to students who use braille, either in paper or electronic format. • Demonstrate how devices with larger screens decrease the need for scrolling when employing the streamline support.	• Students use electronic material including websites, mobile apps, and eBooks with readability mode, which puts material in a streamlined presentation. • Students choose between a side-by-side or streamline presentation of materials.
Text-to-Speech (embedded)	Text is read aloud to the student via embedded text-to-speech technology.	• Teach listening skills using read-aloud material, and then check for understanding. • Read problems aloud to students during instruction. • Model how to use text-to-speech applications, including control the speed and pitch, as well as raise or lower the volume of the voice via a volume control.	• Students listen to a prerecorded audio interpretation (e.g., audiobooks, CDs) of a text or a book. • Students work autonomously using text-to-speech applications.
Translated Test Directions (embedded/non-embedded)	Students can see test directions in another language.	• Provide written translated test directions or translated instructions on assignments. • Demonstrate how this is an effective tool for students who use dual language.	• Students repeat or paraphrase test directions or instructions on assignments. • Students use online translated resources.

Designated Support	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
		• Provide both English and native language directions to build language skills and support students' understanding.	
Translations (Glossaries) (embedded/non-embedded)	Translation glossaries are provided for selected construct-irrelevant terms for mathematics.	• Use cognates (a word derived from the same root) or other terms to clarify language during instruction. • Model how to create/use bilingual glossaries to find the meanings of content specific words. • Remind students that glossaries may be located in the appendices of their textbooks or instructional materials.	• Students use translation glossaries in their texts to facilitate transferring knowledge/skills from their primary language to English. • Students create two-sided flashcards with bilingual content.
Translations (Stacked) (embedded)	Stacked translations provide the full translation of each test item above the original item in English.	• Provide subject-area bilingual word lists. • Model how to create two-sided English-Spanish flashcards with bilingual content. • Have students interact in two languages with their peers or with native speakers of those languages.	• Students use bilingual glossaries in textbooks to find the meanings of unknown words. • Students use bilingual translations during their instruction.
Turn off Any Universal Tools (embedded)	Disabling any universal tools that might be distracting, or that students do not need to use, or that students are unable to use.	• Formulate instructional plans with students in order to best support their unique learning needs and preferences. • Continuously observe/evaluate the use of accessibility resources to ensure that students use	• Students provide feedback on helpfulness and preferences for accessibility resources. • Students practice using the tools during practice and interim tests before the summative assessment.

Designated Support	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
		those resources meaningfully. • Provide simplified directions and tasks during regular instruction and assessments.	

Accommodations are changes in procedures or materials that increase equitable access during the Smarter Balanced assessments. Accommodations are either provided as digitally-delivered (embedded) components of the test administration system or separate from it (non-embedded) for students for whom there is documentation of the need for the accommodations on an Individualized Education Program (IEP) or 504 accommodation plan. Table 3 includes 15 accessibility strategies related to accommodations with their descriptions as well as selected considerations for direct/synchronous and indirect/asynchronous remote teaching and learning. Each strategy in the table is linked to its more detailed description in the later section of the Guide.

Table 3. Accommodations at a Glance

Accommodation	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
100s Number Table (non-embedded)	This tool is a paper copy of a table listing numbers from 1–100 available from Smarter Balanced for reference.	• Model how to use a 100s number table through think-alouds and other strategies. • Model how to use a 100s number table to think about the base ten number system and to build a mental model of the mathematical structure of the number system. • When using a 100s number table, continue to provide repeated opportunities for math fluency practices.	• Students use a 100s number table (often as a sticker on their desk) during everyday instruction and assessments. • Students look for and make sense of the pattern and structure of the 100s number table to become computationally flexible and fluent.
Abacus (non-embedded)	This tool may be used in place of scratch paper for students who typically use an abacus	• Model how to add, subtract, multiply, and divide with the abacus.	• Students use beads on the abacus to count during instruction. • Students can construct their own abacus

Accommodation	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
	for manipulating large numbers.	• Keep in mind that some students with visual impairments or with documented processing impairments may find this resource beneficial. • Keep in mind that students with tactile learning needs and preferences may benefit from this resource.	using basic tools and colored beads.
Alternate Response Options (non-embedded)	Alternate response options include, but are not limited to, adapted keyboards, large keyboards, Sticky Keys, MouseKeys, FilterKeys, adapted mouse, touch screen, head wands, and switches.	• Have students dictate responses to an adult who records them. • Have students work with their peers who do not need the alternate response options accommodation. • Keep in mind that students with physical disabilities (including both fine motor and gross motor skills) may need to use this accommodation.	• Students use communication boards, picture representations, or other augmentative and alternative communication devices to access and express instructional and assessment content. • Students use touch screen navigation.
American Sign Language (embedded)	Test content is translated into an American Sign Language (ASL) video. An ASL human signer and the signed test content are viewed on the same screen.	• Sign content or use a Certified Deaf Interpreter to translate instruction and communicate with students. • Have students sign instructional materials for each other. • Ensure that educational resources include closed captioning if students rely on this resource.	• Students use ASL videos to access instructional content. • Students use ASL translation websites and applications.

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Accommodation	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
Braille (embedded/non-embedded)	Braille is a raised-dot code that individuals read with the fingertips. Written and graphic materials (e.g., maps, charts, graphs, diagrams, and illustrations) are presented in a raised format.	• Provide instructional materials and assignments in braille. • Provide direct instruction in braille and interpreting tactile graphics. • Share materials with teachers of the visually impaired or braille transcribers well in advance of instruction.	• Students access instruction in braille. • Students use tactile graphics and skills related to interpretation of tactile materials.
Braille Transcript (embedded)	This tool is a braille transcript of the closed captioning created for the listening passages.	• Provide a braille copy of closed captioning for videos and films with closed captioning. • Provide a braille copy of closed captioning for foreign-language content with closed captioning. • Keep in mind that students may receive hand-under-hand signing (ASL or another sign system) for auditory materials.	• Students access instruction in braille. • Students complete instructional materials and assignments in braille.
Calculator (non-embedded)	A non-embedded calculator can be used for calculator-allowed items by students who need a special calculator, such as a braille calculator or a talking calculator, currently unavailable within the assessment platform.	• Model use of calculators. • Allow students to choose when to use a calculator to best support their accessibility needs. • Model use of Desmos calculators.	• Students use calculators to do basic calculations in multi-step mathematics processes that are not being assessed. • Students use the calculator offered with assistive technology devices.
Closed Captioning (embedded)	Closed captioning is printed text that appears on the computer screen as	• Ensure that instructional videos are supported by closed captioning.	• Students use videos and films with closed captioning. • Students see and hear unfamiliar words

Accommodation	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
	audio materials are presented.	• Keep in mind that some video formats allow students to search for keywords, concepts, speakers, and more while the video is playing. • Provide content in various languages with closed captioning.	through closed captioning, which can help improve their understanding of the content.
Multiplication Table (non-embedded)	A paper-based, single-digit (1–9) multiplication table will be available from Smarter Balanced for reference.	• Model how to use a multiplication table through think-alouds, visual tools, and other strategies. • Keep in mind that this assessment accommodation is for students with a documented and persistent calculation disability (i.e., dyscalculia). • Keep in mind that a multiplication table provides alternate ways of approaching the same concept, giving students multiple ways to access mathematical knowledge.	• Students use a multiplication table during regular instruction and assessments. • Students look for and make sense of the pattern and structure of the multiplication table to become computationally flexible and fluent.
Print on Demand (non-embedded)	Paper copies of passages/stimuli and/or items are printed for students.	• Provide print materials are used to facilitate learning activities. • Allow students to choose whether to work in a digital or print format. • Keep in mind that students who do not use technology for cultural reasons are likely to benefit from this resource.	• Students use photocopies of passages instead of textbooks to be able to write and/or highlight. • Students make notes and complete activities on printed materials.

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Accommodation	Description	Direct/Synchronous Teaching and Learning	Indirect/Asynchronous Teaching and Learning
Read Aloud (non-embedded)	Text is read aloud to the student via an external screen reader or by a trained and qualified human reader.	• Read small chunks of text aloud and ask students comprehension questions after each portion of text. • Have students read text aloud for each other. • Have students practice instances where they would ask a reader to slow down or repeat text.	• Students listen to a prerecorded audio (audiobook) of text or a book. • Students work autonomously using text-to-speech applications.
Scribe (non-embedded)	Students dictate (e.g., via voice, braille, American Sign Language) their responses to a human who records verbatim what they dictate.	• Have students engage in scribe activities—dictate instructional content to their peers and then check their work. • Model the use of scribing speech recognition technology to encourage writing that is more thoughtful and deliberate. • Keep in mind students who have documented significant motor or processing difficulties, or who have had a recent injury (such as a broken hand or arm) that makes it difficult to produce responses may need to dictate their responses to a human, who then records the students' responses verbatim.	• Students use scribing speech recognition technology. • Students can get increased access to technology and classroom activities by removing the physical barriers to writing and navigation of the computer.
Speech-to-Text (embedded)	Allows students to use their voices as input devices to the	• Use speech recognition technology for	• Students can use accessibility settings, software, or other

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	computer, to dictate responses or give commands (e.g., opening application programs, pulling down menus, and saving work). Students may use their own assistive technology devices.	students to encourage writing that is more thoughtful and deliberate. • Keep in mind that for students with motor skill limitations, physical disabilities, blindness/low vision, or other difficulties accessing a standard keyboard and mouse, voice dictation may be beneficial. • Have students dictate their responses to instructional tasks to each other and check the written content for correctness utilizing speech-to-text.	tools as an alternative to writing or typing in order to produce work that requires textual responses. • Students use audio-recording devices as alternatives to writing when a processing or physical challenge is present.
Text-to-Speech (embedded)	Text is read aloud to the student via embedded text-to-speech technology.	• Teach listening skills using read-aloud material, and then check for understanding. • Read problems aloud to students during instruction. • Model how to use text-to-speech applications, including control the speed and pitch, as well as raise or lower the volume of the voice via a volume control.	• Students listen to a prerecorded audio interpretation (audiobooks) of a text or a book. • Students work autonomously using text-to-speech applications.
Word Prediction (non-embedded)	Allows students to begin writing a word and choose from a list of words that have been predicted from word frequency and syntax rules.	• Make sure that students familiarize themselves with the software to be able to use it effectively. • Keep in mind that students with motor	• Students begin writing a word and choose from a list of words that have been predicted from word frequency and syntax rules as part of

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		impairments use fewer keystrokes since word prediction begins after a few selected characters. • Keep in mind that using word prediction software requires that students know writing conventions and that they have the review and editing skills required of students who enter text via the computer keyboard.	instructional activities and to complete classwork. • Students use word prediction software for extra support so they can focus on the ideas they are trying to express.

Accessibility Strategies – Universal Tools

This section of the Guide highlights 54 accessibility strategies based on the Smarter Balanced multi-tiered accessibility system of universal tools, designated supports, and accommodations. Each strategy includes its description, helpful aspects of the strategy, suggested materials for implementing the strategy, examples of instructional use, and additional considerations for teachers, students, and families.

Breaks

Overview

Description

Students may decide to pause during classwork or during a test session based on their needs.

Student Benefits

Using this tool can help students:

- Improve attentiveness
- Reduce stress
- Restore emotional state
- Redirect behavior
- Boost learning productivity
- Stimulate memory

- Foster social skills

Suggested Materials

- Timer for short breaks every hour
- Brain break apps
- Exercise breaks
- Fidget device
- Physical activity calendar
- Music
- A separate room or area of the room for students to take an individual break in

Instructional Use

- Students pace themselves while completing work.
- Students may move about the classroom or take a short break outside to refocus.
- Use brain breaks—short activities that stimulate curiosity—to boost students' motivation and improve their mood.
- If students are getting restless or unfocused, a few moments of exercise in the classroom can restore their attention.

Things to Consider

- Model breaks in your daily instruction so students can learn self-regulation.
- Allow students to practice using a fidget device (as needed) to support their accessibility needs and preferences.
- Breaks in the Smarter Balanced system of more than 20 minutes will prevent a student from returning to questions already attempted by the student.
- There is no limit on the number of breaks that a student might be given.
- The use of this universal tool may result in a student needing additional overall time to complete an assessment.
- Consider break options that will not be a distraction to others.
- Consider testing guidelines about test security and unallowable materials when providing breaks during test administration.
- The number of items per testing session can be flexibly defined based on a student's need.

Calculator

Overview

Description

An embedded, fully accessible on-screen digital calculator can be accessed for calculator-allowed items when students select the calculator button.

Student Benefits

Using this tool can help students:

- Make fast and accurate calculations
- Understand calculations
- Reduce the complexity of solving problems
- Promote higher-order thinking and reasoning needed for problem-solving
- Recognize and extend numeric, algebraic, and geometric patterns and relationships

Suggested Materials

- Online Desmos calculators
- Handheld calculators
- Computer-based calculators
- Calculators on assistive technology devices

Instructional Use

- Calculators can be used to do basic calculations in multi-step mathematics processes that are not being assessed.
- Calculators help with mathematical accuracy.
- Calculators assist teachers and students in increasing students' understanding of fluency with arithmetic operations, algorithms, and numerical relationships and enhancing student motivation.

Things to Consider

- Model and practice using Desmos calculators.

- Model and practice using calculators.
- Calculators are valuable tools for checking accuracy of work.
- Allow students to learn that calculators are helpful tools that students can turn to for help, not just fast answers.
- Allow students to choose when to use a calculator to best support their accessibility needs and preferences.
- Students in grades 6 will have access to a basic calculator.
- Students in grades 7-8 will have access to a scientific calculator.
- Students in grades 10-11 will have access to a graphing calculator.

Digital Notepad

Overview

Description

This tool is used for making notes about topics, information, or items.

Student Benefits

Using this tool can help students:

- Brainstorm ideas
- Write down connections
- Ask questions
- Organize ideas and topics
- Keep track of notes electronically
- Solve problems
- Improve focus and attention to detail
- Increase comprehension and retention
- By providing an endless supply of space to take notes

Suggested Materials

- Electronic note-taking apps
- Assistive technology
- Whiteboards
- Graphic organizers for note-taking
- Notepaper

Instructional Use

- Provide students with note-taking tools during instruction.
- Support students in the use of different tools to create notes or computations.
- Provide students with a variety of note-taking styles and strategies to support individual needs and preferences (i.e. model two-column notes to record main ideas and to make connections to text with previous knowledge).
- Students use note-taking tools to ask questions to advance learning.
- Students organize ideas by listing and prioritizing topics.
- Students brainstorm ideas before, during, or after a lesson.

Things to Consider

- Model and practice using electronic/online tools like the Digital Notepad with students.
- Model specific note-taking strategies (e.g., abbreviation skills, two-column, Cornell).
- Allow students to choose which type of notes (digital and/or standard) best supports their accessibility needs and preferences.
- Students familiar with the Global Notes tool will be familiar with Digital Notepad as the interface is the same.

English Dictionary

Overview

Description

An embedded or non-embedded English dictionary may be made available for the full write portion of an ELA/literacy performance task.

Student Benefits

Using this tool can help students:

- Understand the meaning of difficult words
- Research how to spell words
- Effectively edit writing
- By providing auditory word pronunciations
- By providing word choice through thesaurus
- Boost academic vocabulary

Suggested Materials

- Electronic English dictionary & thesaurus (including applications)
- Paper English dictionary & thesaurus
- Assistive technology
- Student-created glossaries

Instructional Use

- Students use an electronic or paper English dictionary to look up word meanings, parts of speech, and usage of words.
- Using a dictionary supports English language acquisition skills of students with varying levels of English language proficiency.
- Students use an electronic or paper dictionary to create glossaries with terms, definitions, and examples.

Things to Consider

- Ensure students understand the difference between dictionary, thesaurus, and glossary.
- Model and practice using electronic and paper dictionaries to aid in writing.
- Model the different parts of a dictionary entry to understand the meanings, parts of speech, and usage of words.
- Model the strategy of creating glossaries with terms, definitions, and examples.
- Allow students to choose which type (digital or standard) of dictionary best supports their accessibility needs and preferences.
- Students may select the wrong word for the context when using a dictionary to choose words.

English Glossary

Overview

Description

This tool is for grade/context-appropriate definitions of specific construct-irrelevant terms that are shown in English.

Student Benefits

Using this tool can help students:

- Identify useful text features for understanding new vocabulary
- Clarify unknown words used in the context of the text
- Boost academic vocabulary
- Foster reference skills
- By offering an accurate source for word meaning as related to the text

Suggested Materials

- Electronic English glossary (including applications)
- Textbook/Paper glossary
- Assistive technology

Instructional Use

- Students utilize embedded definitions and glossary sections in textbooks (both paper and electronic formats).
- Support students' understanding of definitions in footnotes, margins, photos, charts, and illustrations.
- Students create their own glossaries of terms, definitions, examples, etc.
- Pre-teach new concepts by using English glossaries.

Things to Consider

- Model and practice using glossaries to clarify word meanings.
- Ensure students understand the difference between dictionary, thesaurus, and glossary.
- Model and practice using glossaries in various resources (digital or standard) to create an understanding of unknown words.
- Model the strategy of creating glossaries.
- Only preselected terms will appear in the embedded glossary.
- Glossaries help English learners understand specific content definitions.

Expandable Passages and Items

Overview

Description

Each passage/stimulus or item can be expanded so that it takes up a larger portion of the screen when the student selects one of the two arrows in the pane.

Student Benefits

Using this tool can help students:

- View stimuli separate from items or other information
- View a split screen so information can be referenced while answering questions
- Read stimulus or item in a full-screen view
- Reduce visual complexity (visual noise) to allow them to better focus on the task
- Reduce the perceived reading load
- Reduce the amount of scrolling

Suggested Materials

- Electronic stimuli and questions
- Visually simplified materials
- Assistive technology

Instructional Use

- Teachers can create a document for students to work from, in which a passage or stimulus takes up a large portion of the page.
- Provide separate pages for passages and activities that connect to the passages.
- Visually simplify text provided in classroom activities by removing unnecessary graphics and enlarging text to fill a larger space on the page.
- Support students in the use of digital stimuli and questions.
- Model and practice using text with and without supporting materials through chunking and questioning aloud.

Things to Consider

- Model and practice using a dual pane (digital or paper) with the stimulus in the left pane and question(s) in the right pane.
- Consider using online platforms that utilize a dual pane for classroom-based assignments and assessments.
- Model and practice using a dual screen and expanding windows based on students' accessibility needs and preferences.

Global Notes

Overview

Description

This tool is a notepad that is available for the duration of an ELA performance task in which students complete a full write.

Student Benefits

Using this tool can help students:

- Brainstorm ideas
- Write down connections
- Ask questions
- Organize ideas
- List topics
- Record textual evidence
- Boost comprehension and retention
- Identify main ideas and supporting content

Suggested Materials

- Whiteboards
- Graphic organizers for note-taking
- Electronic note-taking apps
- Assistive technology
- Notepaper
- Scratch paper

Instructional Use

- Provide students with note-taking skills and annotation tools during instruction.
- Students can create two-column notes to record ideas and make connections to plan writing tasks.
- Students can use note-taking tools to ask questions about writing tasks and generate ideas.
- Students can organize ideas by listing and prioritizing topics.

Things to Consider

- Model specific strategies for planning full writes (e.g., one- or multiple-column, outline).
- Model and practice using electronic tools like Global Notes with students.
- Allow students to choose which type (digital or standard) of notes best supports their accessibility needs and preferences.
- Model how to identify main and secondary ideas in the text.
- Students familiar with the Digital Notepad tool will be familiar with Global Notes as the interface is the same.

Highlighter

Overview

Description

A digital tool for marking desired text, item questions, item answers, or parts of these with a color.

Student Benefits

Using this tool can help students:

- Annotate
- Ask and answer questions
- Summarize
- Find key details and vocabulary
- Identify supporting ideas and other text elements
- Draw attention to important text
- Draw attention to steps to complete in a performance task

Suggested Materials

- Manual highlighter
- Digital highlighter
    - o word processing programs and apps
    - o eBooks
    - o optical character recognition (OCR) pens
    - o assistive technology
- Removable highlighter tape

Instructional Use

- Students use highlighters to distinguish useful/meaningful text when completing an assignment.
- Students can denote main ideas, supporting details, introductions, and conclusions.
- Students use highlighters to connect important ideas.

Things to Consider

- Consider color-coding: choose one color for definitions and key points and another color for examples.
    - o Consider the needs of students with color-related disabilities.
- Model and practice using digital and manual highlighters to understand the purpose of how to use selective highlighting/underlining.
- Allow students to choose which type (digital and/or standard) of highlighter best supports their accessibility needs and preferences.
- Students need practice with purposeful highlighting, so they don't highlight too much text.

Keyboard Navigation

Overview

Description

Navigation throughout text can be accomplished by using a keyboard or an adapted keyboard.

Student Benefits

Using this tool can help students:

- Navigate a computer or tablet more efficiently
- Improve on-task focus
- Personalize their interaction with technology
- Reduce dependence on the computer mouse
- Acquire motor skills
- Increase their sense of mastery with technology

Suggested Materials

- Keyboard
- Adapted keyboard
- Assistive technology devices

Instructional Use

- Students use keyboarding basics to become familiar with the placement of buttons.
- Students use keystrokes and/or key commands in place of, or in addition to, a mouse to navigate the computer.
- Students access software programs and Internet applications in the classroom using keyboard navigation.

Things to Consider

- Model the use of key tools that a keyboard can provide.
- Students need direct instruction and practice using a keyboard to become familiar with the tool.
- This tool is designed for diverse learning styles to best support students' accessibility needs and preferences.

Line Reader

Overview

Description

The student uses an onscreen universal tool to assist in reading by moving the tool over each line of text as it is read on the screen.

Student Benefits

Using this tool can help students:

- Improve reading skills
- Focus the visual field
- Control eye movement
- Chunk information
- Increase fluency
- Reduce word and line skipping
- Reduce distractions on the page
- Track their place while reading text

Suggested Materials

- Line reader
- Line separator
- Manipulatives for tracking
- Assistive technology
- Color overlay strip

Instructional Use

- Students can use this computer application or a manipulative (e.g., ruler, sheet of paper) to track instructional texts line by line as they progress through reading.
- Support students in directional tracking (left to right) in order to process information accurately.
- Students can use digital or standard line trackers to improve reading skills by enhancing focus on the line being read.
- Students use a tool to carefully read through all the answer choices.

Things to Consider

- Model and practice using electronic tools for tracking information.
- Model and practice using fingers, rulers, or pointers to track information on paper.
- Allow students to choose which types (digital and/or standard) of tools best support their accessibility needs and preferences.

Mark for Review

Overview

Description

This tool allows students to flag items for future review during the assessment.

Student Benefits

Using this tool can help students:

- Mark which questions have not been answered
- Return to and restore focus on difficult questions after taking a break
- Review work before submitting
- Skip more challenging parts and focus their attention more effectively

Suggested Materials

- Electronic marking apps
- Electronic bookmarks
- Pencil/Paper bookmarks
- Sticky notes
- Assistive technology

Instructional Use

- Circling, starring, highlighting, or placing a check mark by an item about which a student is unsure enables the student to proceed to the next item.
- Students use paper sticky flags to notate areas for review or rereading.
- Students use an electronic bookmark in an eBook to return to a section.
- Students flag questions so they can return to a question again and respond or double-check their answer.

Things to Consider

- Model marking a question when students come across difficult problems.
- Have students practice returning to difficult problems to review work to support their individual accessibility needs and preferences.
- Model using sticky notes to mark places for review.

Math Tools

Overview

Description

These digital tools (embedded ruler and embedded protractor) are used for measurements related to math items.

Student Benefits

Using this tool can help students:

- Use appropriate math tools strategically
- Attend to precision
- Save time
- Check for errors
- Extend mathematical thinking
- Solve problems

Suggested Materials

- Rulers
- Protractors
- Number lines
- Manipulatives
- Electronic apps for math tools
- Interactive online math tools

Instructional Use

- Students can use rulers, protractors, and manipulative materials to complete graphs, rays, and circumferences.
- Students gain knowledge of various math tools and have an understanding of when they are useful and what their limitations are.
- Rulers, protractors, and physical manipulatives build kinesthetic knowledge of math concepts and help students relate abstract concepts to the physical world.
- Concrete-to-Representational-to-Abstract Instruction ensures that students first develop a concrete level of understanding for a new mathematics concept or skill.

- Online interactive math tools develop the sense of measurement and provide opportunities for repeated practice.

Things to Consider

- Coach students on how to select specific tools for math problems. Allow students ample time for mastery of use with real rulers and protractors before transitioning to digital tools.
- Consider that these tools are available only with the specific questions for which the test item specifications indicate that one or more of these resources would be appropriate.
- Allow students to choose which types (digital or standard) of math tools best support their accessibility needs and preferences.
- Provide opportunities for students to get familiar with online tools before assessment.

Scratch Paper

Overview

Description

Scratch paper to make notes, write computations, or record responses may be made available to students.

Student Benefits

Using this tool can help students:

- Brainstorm ideas
- Write down, draw, or record connections
- Ask questions
- Organize ideas
- List topics
- Solve problems
- Calculate
- Boost creativity

Suggested Materials

- Scratch paper – electronic or notepaper
- Whiteboards

- Graph paper (paper based and digital)
- Magnetic boards
- Assistive technology

Instructional Use

- Students can brainstorm ideas before, during, or after a lesson.
- Students can create drawings to assist in problem-solving.
- Students create notes or work on computations.
- Teachers teach how to create an outline for the different kinds of writing
- Provide students with a variety of note-taking styles and problem-solving strategies to support individual needs and preferences during instruction (i.e., model two-column notes to record main ideas and to make connections to text with previous knowledge).
- Students create graphic organizers to organize ideas based on their accessibility needs and preferences.
- Students organize ideas by listing all ideas for each topic and then prioritizing them.
- Students use note-taking tools to ask questions to advance learning.

Things to Consider

- Model specific note-taking strategies (e.g., two-column, Cornell).
- Model and practice using electronic/online tools or scratch paper that will assist with making notes, writing computations, and solving problems.
- Allow students to choose which types (digital or standard) of notes best support their accessibility needs and preferences.
- All scratch paper used during testing must be provided by the test examiner and collected at the end of the testing session.

Spell Check

Overview

Description

A writing tool for checking the spelling of words in student-generated responses.

Student Benefits

Using this tool can help students:

- Spell correctly
- Evaluate work
- Proofread writing
- Compose written responses
- Improve English language proficiency

Suggested Materials

- Automated spell-check devices that approximate correctly spelled words and correct automatically
- Spell-check apps
- Spelling games/activities
- Electronic/Paper dictionaries
- Assistive technology
- Peer-partner learning activities

Instructional Use

- Teachers proofread students' work and have students make specific corrections.
- Students proofread other students' work, as well as their own, using a dictionary or an automated spell-check device.
- Students use rubrics to evaluate their own work, including checking for spelling, grammar, or content.
- Students use rubrics to evaluate work of a peer partner, including checking for spelling, grammar, or content.

Things to Consider

- Model specific uses for the Spell Check tool since students may not catch all errors or may have a hard time approximating a word.
- Model and practice proofreading written responses.
- Point out instances where spell-checking tools offer incorrect spellings of words and phrases (i.e., homophones).
- Caution students from accepting spelling corrections before fully reading the suggestions.

Strikethrough

Overview

Description

This tool allows students to cross out answer options.

Student Benefits

Using this tool can help students:

- Eliminate extraneous information and focus attention on critical elements
- Select correct answers
- Critically think about answers
- Reduce errors

Suggested Materials

- Electronic strikethrough tools
- Paper/Pencil tools
- Assistive technology

Instructional Use

- Students cross out the incorrect answers to multiple-choice items.
- Students cross out incorrect words in sentences.
- Students reduce errors by critically thinking about each option.
- Students cross out secondary information in texts.

Things to Consider

- Model the process of elimination for answer options.
- Model and practice using electronic strikethrough tools.
- Model how to link correct answers to concrete elements in a reading.
- Model how to identify less relevant parts of text.
- Allow students to choose which type of elimination process best supports their accessibility needs and preferences.
- Strikethrough is not available for all material in a testing situation.

Thesaurus

Overview

Description

A thesaurus contains synonyms of terms, which a student can access while interacting with text included in the assessment.

Student Benefits

Using this tool can help students:

- Effectively edit writing
- Choose appropriate words
- Understand the meaning of difficult words
- Expand vocabulary

Suggested Materials

- Electronic English dictionary and thesaurus (including applications)
- Paper English dictionary and thesaurus
- Assistive technology
- Student-created thesaurus

Instructional Use

- Students utilize a thesaurus to enrich their writing vocabulary and to hone their knowledge of nuances in the English language.
- Students use an electronic or paper thesaurus to look up synonyms and antonyms.
- Students use an electronic or paper thesaurus to support language acquisition skills.

Things to Consider

- Students need to understand the difference between dictionary, thesaurus, and glossary.
- Model and practice using an electronic thesaurus to aid in writing.
- Model the different parts of a thesaurus.

- Allow students to choose which type (digital or standard) of thesaurus best supports their accessibility needs and preferences.
- Students need to understand context and syntax when using a thesaurus (i.e., *keen* would be listed in a thesaurus under *sharp*, but a student shouldn't write *I have a keen knife*).
- Students need to understand connotation and denotation when using a thesaurus.

Writing Tools

Overview

Description

Select writing tools (i.e., bold, italic, bullets, undo/redo) are available for all student-generated responses.

Student Benefits

Using this tool can help students:

- Compose a written response or essay
- Edit writing
- Format writing
- Revise writing
- Proofread documents
- Improve understanding of various writing conventions

Suggested Materials

- Electronic word processing tools and apps
- Assistive technology

Instructional Use

- Students use digital word processing tools in order to correctly format a typewritten story or article.
- Students can improve their ability to use italics and bullets correctly.
- Students understand formatting on an electronic document.

Things to Consider

- Model specific tools with students:
    - Bold
    - Italic
    - Underline
    - Remove format
    - Numbered list
    - Bullets
    - Outdent
    - Indent
    - Cut
    - Copy
    - Paste
    - Undo
    - Redo
    - Spell check
    - Language (English)
    - Insert special character
- Provide opportunities for students to practice writing on an electronic word processing program.
- Provide multiple opportunities for students to format and revise a typed document as needed.

Zoom

Overview

Description

A tool for making text or other graphics in a window or frame appear larger on the screen.

Student Benefits

Using this tool can help students:

- Read the text clearly
- Increase the size of text and graphics
- Decrease visual fatigue
- Increase comprehension

- Increase reading speeds
- Increase accessibility of electronics
- Easily navigate materials

Suggested Materials

- Large-print texts
  - Bookshare (an online library of accessible eBooks for people with print disabilities)
  - Accessible educational materials
- Low-vision devices such as closed-circuit television (CCTV) or hand-held magnifiers
- Enlarged handouts
- Technology applications or software that enlarge digital text
- Zoom features on web browsers
- Assistive technology

Instructional Use

- Students receive large-print versions of textbooks, or other text, to enable their access to curriculum.
- Students have access to enlarged mathematics problems to make sure all steps are completed.
- Students use two-finger zoom on their tablet or touch screen.
- Students use zoom features within web browsers and other programs.

Things to Consider

- Competency with magnification tools enables students to gain access to materials.
- Gradually increase or decrease the zoom to best support students' accessibility needs and preferences.
- If large print is appropriate, remember quality and typeface are as important to legibility as is size.
- Model and practice how to navigate materials when using zoom or magnification; different devices and programs have different ways of performing this task.
- Be mindful of instances where zoom cannot be applied to the entire interface and make sure that students have alternative access to those parts.
- Devices with larger screens will decrease the need for scrolling when employing the zoom tool.

Accessibility Strategies – Designated Supports

Amplification

Overview

Description

The student adjusts the volume control beyond the computer's built-in settings using headphones or other non-embedded devices.

Student Benefits

Using this support can help students:

- Increase volume of instruction
- Reduce auditory distractions
- Distinguish speech from background noise
- Improve focus
- Increase comprehension
- Reduce frustration and improve behavior

Suggested Materials

- Headphones
- FM System
- Noise buffers
- White noise machines
- Assistive technology devices
- Microphones
- Speakers

Instructional Use

- Students may use amplification and/or assistive technology in the classroom to increase the volume provided in the instructional content.
- Amplification will allow a teacher's lesson to be amplified to a higher audio level than that of background ambient noise.
- Classroom amplification systems help students access auditory materials and instruction and improve understanding of content.

Things to Consider

- Students may use headphones, assistive technology, noise buffers, or white noise machines to adjust the volume provided in the test delivery system.
- Use of this resource may require a separate setting, such as a different room.
- Allow extra time for processing information.

Bilingual Dictionary

Overview

Description

A bilingual/dual-language word-to-word dictionary is a language support.

Student Benefits

Using this support can help students:

- Increase English language proficiency
- Develop bilingual skills
- Access content available in other languages
- Learn how to construct definitions of terms
- Learn word meaning and vocabulary
- Formulate written answers

Suggested Materials

- Bilingual/dual-language paper dictionaries
- Bilingual/dual-language online dictionaries and applications
- Student-created bilingual glossaries

Instructional Use

- Using this support can help students:
    - Increase English language proficiency
    - Develop bilingual skills
    - Access content available in other languages

- o   Learn how to construct definitions of terms
- o   Learn word meaning and vocabulary
- o   Formulate written answers

Things to Consider

- For students whose primary language is not English and who use dual language support in the classroom, the use of a standard published bilingual or dual-language word-to-word dictionary may be appropriate.
- The use of this designated support may result in the student needing additional overall time to complete the assessment.
- Quality of online translation resources varies by type and language, and these resources should be used with caution.
- Students may select the wrong word for the context when using a bilingual dictionary to choose words.

Color Contrast

Overview

Description

Based on student needs or preferences, color contrast enables students to adjust a screen or printed background and/or font color.

Student Benefits

Using this support can help students to:

- Better access materials, either electronic or printed
- Reduce visual fatigue
- Increase interest level in printed materials
- Increase reading speeds and comprehension
- Boost focus, attention, and retention

Suggested Materials

- Software or built-in accessibility features that change the font and/or background color(s)

- Tablets or smart phone applications (must not rely on connection to the internet, if used on an assessment)
- Color coding (varied printing color and paper color)
- Assistive technology devices such as CCTV or hand-held optical scanners
- Color overlays

Instructional Use

- Students have instructional materials that have different font or background/paper color(s).
- Students can use one color for a main idea and another color for details when outlining or taking notes.
- Students use built-in accessibility features in an operating system to reverse contrast or change color of background and/or font color of computer screen.
- Students use assistive technology devices to change background and/or font colors; such resources include CCTV, tablet, or additional software on a computer, or other digital device.
- Students use websites that enable them to change background and/or font color of application.
- Teachers consider how students interact with instructional materials and guide students to use an appropriate tool (i.e., doodling, color coding, using colored patterns, and other tools).
- Teachers intentionally choose specific colors for annotations, assignments, and notes to evoke colorful memory triggers.

Things to Consider

- Choice of colors should be informed by evidence that color selections meet the student's needs and may vary depending on activities, environmental lighting, time of day, and/or the visual fatigue of student.
- Color choices are varied depending upon the platform used. Students should have ample opportunities to practice on practice tests to determine optimal color contrast settings for assessments, particularly when tools like the highlighter are embedded in the system, or if parts of the content are not responsive to color contrast settings.
- Students should be allowed to change color contrast choices when appropriate.
- Students with attention difficulties, visual impairments, or other print disabilities (including learning disabilities) may need this resource for viewing test content in addition to educational materials.
- The non-embedded designated support may be used in conjunction with print-on-demand or may require permissive mode, which enables access to a secure browser by non-embedded software.
- Materials may be printed with different colors using a color printer or paper in conjunction with the print-on-demand resource.

Color Overlays

Overview

Description

Color transparencies are placed over a paper-based assessment or a computer screen.

Student Benefits

Using this support can help students:

- Have better access to printed materials or online text
- Reduce visual fatigue
- Increase reading fluency
- Increase focus and interest in printed materials
- Boost student learning and memory

Suggested Materials

- Color overlays
- Computer programs or apps that change color of entire screen
- Assistive technology devices

Instructional Use

- Color transparencies are placed over a paper-based assessment or instructional reading materials.
- Color transparencies are placed over computer screen or tablet.
- Color transparencies are placed over chart paper or posters during instruction.

Things to Consider

- This resource is recommended for students with attention difficulties, visual impairments, or other print disabilities (including learning disabilities), who may need this resource for viewing material and test content.
- Choice of color should be informed by evidence that the colors meet the student's needs.
- Choice of color may vary between activities and throughout the student's day.

- Students can benefit from using this accessibility resource even if they have limited access to technology.
- This support can be used both for paper-based or computer assessments.

Illustration Glossaries

Overview

Description

Illustration glossaries are provided for selected construct-irrelevant terms for mathematics.

Student Benefits

Using this support can help students:

- Remove barriers that prevent them from demonstrating mathematical skills
- Clarify and offer an additional source for unknown words as used in the context of the text
- Identify useful text features for understanding new vocabulary through illustrations
- Improve English language proficiency
- Improve sign language proficiency
- Boost academic vocabulary
- Foster reference skills
- Develop critical and comparative thinking
- Increase intercultural awareness

Suggested Materials

- Illustration glossaries (instructional materials)
- Online illustration resources and applications
- Student-created glossaries
- Paper-based illustration resources

Instructional Use

- Students use illustration glossaries to facilitate transferring knowledge/skills from their primary language to English.
- Teachers use illustrations and other visual aids (e.g., cultural realia) to demonstrate instructional content.

- Students create/use glossaries with illustrations to find the meanings of content specific words (e.g., mathematics, science, and history).
- Glossaries with illustrations may be located in the appendices of their textbooks or instructional materials.
- Students may use electronic or hard copies of glossaries to clarify vocabulary during math instruction.

Things to Consider

- Words with illustrations are indicated by a faint dotted line and appear when the user hovers over the word with a mouse.
- Students who are progressing toward English language proficiency (whether or not designated as English learners [ELs] or ELs with disabilities) as well as students who are deaf or hard of hearing and not proficient in American Sign Language can use the illustration glossary for specific questions.
- The use of this designated support may result in the student needing additional overall time to complete the assessment.
- Illustrations for these terms appear in pop-up boxes on the computer screen when selected; students are able to adjust the size of the illustration and move it around the screen.
- This designated support can be selected for students as: an illustration glossary, the translated glossary, or the translated glossary and English.
- Stacked translations are available in Spanish for students who need the entire item translated; translation glossaries are available for thirteen languages, including some of their varieties and dialects.
- Some illustration resources should be used with caution, as their quality, precision, and cultural authenticity may vary.
- Teachers need to be interculturally competent and educate themselves about languages and cultures represented in their classroom, including language varieties and dialects.

Magnification

Overview

Description

The size of specific areas of the screen (e.g., text, formulas, tables, graphics, and navigation buttons) may be adjusted by the student with an assistive technology device or software.

Student Benefits

Using this support can help students:

- Increase the size of text and graphics
- Navigate materials easily
- Read the text clearly
- Increase reading fluency and comprehension
- Increase digital accessibility
- Decrease visual fatigue

Suggested Materials

- Large-print texts/materials
- Use of low vision devices such as CCTV or hand-held magnifiers
- Technology applications or software that enlarge digital text
- Zoom features on web browsers
- Assistive technology

Instructional Use

- Students receive large-print versions of textbooks or other text and explain the different uses of magnification and zoom to enable access to curriculum and/or content specific material.
- Students use two-finger zoom on their tablet or touch screen depending on their type of device.
- Students use zoom features within web browsers and other programs.
- Teachers use projectors and smartboards to enlarge instructional content for students.

Things to Consider

- Gradually increase or decrease the magnification to best support students' learning needs and preferences.
- If large print is appropriate, remember quality and font are as important to legibility as is size.
- Model and practice how to navigate materials when using magnification; competency with magnification tools enables students to gain access an independence when using materials.
- Students may choose to enlarge text, graphics, or navigation buttons to comfortably view content.
- This resource may meet the needs of students with visual impairments and other print related disabilities.
- Devices with larger screens will decrease the need for scrolling when employing magnification support.

- The use of this designated support may result in the student needing additional overall time to complete the assessment.

Masking

Overview

Description

Masking involves blocking off content that is not of immediate need or that may be distracting to the student. Students are able to focus their attention on a specific part of a test item by masking.

Student Benefits

Using this support can help students:

- Focus on specific material
- Reduce visual complexity
- Increase visual attention
- Increase concentration
- Reduce visual fatigue

Suggested Materials

- Masking devices and manipulatives
- Computer software or apps on tablets that block text on screen

Instructional Use

- Students may use electronic or hard copies of glossaries to clarify vocabulary during math instruction.
- During instruction, students use a masking device that covers up sections of text before/after they read to maintain visual attention.
- Teachers model how to use a masking device that covers up sections of text before/after students read to maintain visual attention.
- Teachers create a clean document for students to work from that is not too "busy" or visually crowded with distracting information.

- Teachers reduce the number of unnecessary graphics for students who prefer less visual crowding.
- Students use paper or other manipulatives to block test questions and decrease distractions.
- Teachers block off text on classroom boards or projectors to help students focus on targeted material during whole-group instruction/discussion.
- Students use assistive technology software or apps that allow reduction of viewing area.
- Teachers create instructional materials/games that gradually reveal content for students.

Things to Consider

- Masking allows students to hide and reveal individual answer options, as well as all navigational buttons and menus.
- This resource is recommended for students with attention difficulties, visual impairments, or other print disabilities (including learning disabilities).
- This resource is recommended for students who need a reduction of visual complexity.
- Students should have the opportunity to use this support multiple times in the testing platform.
- Students who use paper or other manipulatives to block test questions on paper tests, may or may not find this support helpful in a digital format.

Medical Supports

Overview

Description

Students may have access to medical supports for medical purposes (e.g., Glucose Monitor). The medical support may include a cell phone, and should only support the student during testing for medical reasons.

Student Benefits

Using this support can help students:

- Monitor health conditions
- Increase sense of security and comfort
- Improve focus

Suggested Materials

- Applications on smartphones or other electronic devices that monitor students' health conditions (e.g., blood sugar levels)

Instructional Use

- Students use their electronic devices or other medical supports to periodically monitor health conditions to be able to participate in instruction without risks to their health.
- Students and teachers monitor and attend to conditions such as lapses in alertness, concentration, and focus, which may interfere with learning.

Things to Consider

- Device settings must restrict access to other applications, or the test administrator must closely monitor the use of the device to maintain test security.
- Use of electronic devices may require a separate setting to avoid distractions to other test takers and to ensure test security.
- As some health monitoring applications must access the internet, students should be monitored during assessments.
- Teachers need to be educated about how to respond to various health conditions their students may have.

Mouse Pointer

Overview

Description

This embedded support allows a user to increase the size and change the color of the mouse pointer.

Student Benefits

Using this support can help students:

- More easily locate and track the mouse pointer on a computer screen or other device
- Increase the size and adjust the color of the mouse

- Decrease visual fatigue
- Increase accessibility of electronics
- Easily navigate materials

Suggested Materials

- Magnifying devices
- Magnification software
- Computer and device settings

Instructional Use

- Students change the size and color of their mouse to more readily find their mouse pointer on the screen during regular instruction and classwork.
- Students should have ample opportunity to practice during daily instruction with the size and color of the mouse to best support students' accessibility needs and preferences.

Things to Consider

- While the mouse pointer resource can be used with the zoom universal tool, the enlarged mouse pointer is built into the designated support, magnification.
- What follows are some options for the designated support, mouse pointer (options on assessments will vary from state to state):
    o Large, Black Mouse Pointer
    o Extra Large, Black Mouse Pointer
    o Large, Green Mouse Pointer
    o Extra Large, Green Mouse Pointer
    o Large, Red Mouse Pointer
    o Extra Large, Red Mouse Pointer
    o Large, White Mouse Pointer
    o Extra Large, White Mouse Pointer
    o Large, Yellow Mouse Pointer
    o Extra Large, Yellow Mouse Pointer
- This resource is recommended for students with visual impairments, perceptual challenges, or motor impairments.
- Students should have ample opportunities for practice and familiarization with their preferred size and color of the mouse pointer.
- This setting is set prior to testing and cannot be changed during the administration of the assessment.

Noise Buffers

Overview

Description

Ear mufflers, white noise, noise cancelling headphones, earplugs, and/or other equipment used to block external sounds.

Student Benefits

Using this support can help students:

- Block external sounds
- Increase focus and comprehension
- Minimize distractions
- Improve working speed
- Reduce stress levels

Suggested Materials

- Ear mufflers
- Noise cancelling headphones
- Ear plugs
- White noise
- Assistive technology
- Calming music

Instructional Use

- Teachers model the purpose and uses of noise buffers.
- Students regularly wear equipment to reduce environmental noise during regular instruction and assessments.
- Students who use noise buffers for learning can stay academically engaged by reducing external distractions.
- A noise buffer can block background noises making dialogue more audible for students.

Things to Consider

- Noise buffers can improve listening and offset the effect of distracting environmental activities and noises.
- Students who use noise buffers will need headphones unless tested individually in a separate setting.
- Consider using a noise buffer for students with speech/hearing, behavioral, learning, sensory, or auditory processing disabilities.

Read Aloud

Overview

Description

Text is read aloud to the student by a trained and qualified human reader.

Student Benefits

Using this support can help students:

- Decode words
- Focus on comprehending text
- Understand grade-level content
- Read and write more easily
- Boost learning and memory

Suggested Materials

- Teacher or assistant who reads aloud instructions and/or text
- Computer software
- Built-in applications on mobile devices
- Audiobooks
- Assistive Technology

Instructional Use

- Listening skills can be taught using read-aloud material, after which students are checked for understanding.
- Students listen to a prerecorded audio (audiobook) of text or a book.
- Struggling readers can work autonomously at grade-level using text-to-speech applications or human readers, giving them the chance to set aside decoding challenges and move on to higher-level thinking.
- Teachers read small chunks of text aloud and ask students comprehension questions after each portion of text.
- Students read text aloud for each other.

Things to Consider

- This designated support is appropriate for a very small number of students who have needs or preferences for read aloud support.
- Readers can use read aloud guidelines to educate themselves about various aspects of this support.
- A student should have the option of asking a reader to slow down or repeat text.
- The use of this designated support may result in the student needing additional time to complete the assessment, the use of a separate setting, or both.
- Students should be regularly using a human reader in the classroom if they are using this support during testing.
- Teachers should consider the merits of using a human reader rather than text to speech.
- A human reader should be someone familiar to the student who regularly provides read aloud support to students in the classroom.
- This resource may be needed by:
  - students with reading-related disabilities,
  - students who are advancing toward English language proficiency,
  - students with attention difficulties,
  - struggling readers, or
  - students who are blind and do not yet have adequate braille skills.

Read Aloud in Spanish

Overview

Description

Spanish text is read aloud to the student by a trained and qualified human reader.

Student Benefits

Using this support can help students:

- Understand material in Spanish
- Focus on comprehending text
- Understand grade-level content
- Develop bilingual skills

Suggested Materials

- Teacher or assistant reading aloud instructions and/or text in Spanish
- Software programs, audiobooks, and applications
- Spanish read aloud guidelines

Instructional Use

- Listening skills are supported using read-aloud materials in Spanish, combined with checking for understanding.
- Students listen to a prerecorded Spanish audio interpretation (audio book) of text or a book.
- Struggling readers can work autonomously at grade-level using text-to-speech apps gaining access to higher-level thinking.

Things to Consider

- Spanish-speaking students receiving the Translations (stacked) designated support and who are struggling readers may need assistance accessing the assessment by having all or portions of the assessment read aloud.
- This resource also may be needed by students with reading-related disabilities.
- If not used regularly during instruction, this resource is likely to be confusing and may impede the performance on assessments.
- A student should have the option of asking a reader to slow down or repeat text.

- The use of this designated support may result in the student needing additional overall time to complete the assessment, the use of a separate setting, or both.
- Some online translation tools should be used with caution, as their quality and precision vary.
- During testing, this tool can only be used for the math portion.

Scribe

Overview

Description

Students dictate their responses to a human who records verbatim what they dictate.

Student Benefits

Using this support can help students:

- Communicate
- Write legibly
- Demonstrate writing composition and dictation skills
- Increase productivity for students, as needed
- Improve English language proficiency
- Demonstrate organizational skills
- Increase quantity of writing
- Develop ideas on the topic

Suggested Materials

- Scribes
- Specific speech-to-text software
- Audio recording devices
- Assistive Technology
- Writing Utensils
- Paper

Instructional Use

- Students can use a scribe as an alternative to writing when a processing or physical challenge is present. A trained adult then transcribes the student's response by keying in the choice or word-for-word on the student's test or assignment.
- Students engage in classroom scribe activities—dictate instructional content to their peers and then check their work.
- Teachers use scribing speech recognition technology for students to encourage writing that is more thoughtful and deliberate.
- Students can draw a picture on the topic to assist with understanding of the content. Peers or adults transcribe the student's response of the picture.

Things to Consider

- Students who have documented significant motor or processing difficulties, or who have had a recent injury (such as a broken hand or arm) that makes it difficult to produce responses may need to dictate their responses to a human, who then records the students' responses verbatim.
- The use of this resource may result in the student needing additional overall time to complete the assessment.
- The scribe must be trained and qualified and must follow the administration guidelines provided by Smarter Balanced. Scribe guidelines are very specific and must be read and internalized as they provide additional information on administering this accommodation during testing.
- By removing the physical barriers of writing and navigation of the computer, student access to technology and classroom activities can be increased.
- Speech recognition technology can encourage writing that is more thoughtful and deliberate.
- Students with attention deficits may be able to engage and complete assignments more efficiently with a scribe.
- Students using scribes may need alternate locations in order to reduce distractions.
- Ensure that there are enough trained scribes to meet the needs of a school's population.
- Students should be using a scribe regularly in the classroom if they are going to use this designated support while testing.

Separate Setting

Overview

Description

The test location is altered so that the student is tested in a setting different from that made available for most students and is conducive to their learning needs.

Student Benefits

- Using this support can help students:
  - Reduce distractions
  - Improve focus
  - Improve behavior
  - Reduce anxiety/stress

Suggested Materials

- Special seating arrangements
- Separate rooms
- Portable room divider

Instructional Use

- During instruction and or testing, students are provided an alternative environment in which to work to best meet their needs and preferences.
- Students who are easily distracted are provided seating within the classroom to improve focus.
- Students can come in during free periods to do homework, class assignments, or complete assessments when the classroom has only a few students.
- Students engage in small group, pair, or individual classroom activities.

Things to Consider

- Students may need specific adjustments to their testing environment to remove obstacles for a comfortable test experience.
- The separate setting may be in a different room that allows them to work individually or among a smaller group.
- The separate setting may include a calming device or support as recommended by educators or specialists.

- The separate setting may be in the same room but in a specific location (for example, away from windows, doors, or pencil sharpeners; in a study carrel; near the teacher's desk; or in the front of the classroom).
- Some students may benefit from being in an environment that allows for movement, such as being able to walk around.
- Some students also may benefit from testing at a particular time of day.
- Students using the amplification non-embedded designated support may need a separate setting to avoid disturbing other students who are testing.
- Other adjustments to the environment may include special lighting, acoustics, and adaptive furniture.
- Incorporating student choice may increase acceptance and willingness to work in the alternative location.
- In some instances, students may need to interact with instructional or test content outside of school, such as in a hospital or their home.
- This can be used in combination with other tools such as breaks or simplified directions to create the most conducive testing environment.

Simplified Test Directions

Overview

Description

The test administrator simplifies or paraphrases the test directions found in the Test Administration Manual according to the Simplified Test Directions guidelines.

Student Benefits

Using this support can help students:

- Understand directions
- Increase task completion
- Increase focus
- Reduce stress
- Clarify any misconceptions
- Understand academic vocabulary

Suggested Materials

- Simplified directions (written and oral)
- Teacher and student think-alouds
- Guidelines for simplifying directions

Instructional Use

- Teachers read directions aloud in paraphrased, clarified, or simplified form.
- Students with difficulties in auditory processing, short-term memory, attention, or decoding may benefit from having test directions simplified for them.
- Teachers routinely rephrase the directions for students during their instruction (homework, worksheets, etc.).
- Teachers use think-alouds through explicit explanations of the steps of problem solving through teacher modeling metacognitive thought, e.g., demonstrating the thought process used in problem solving.
- The "I do, you do, we do" strategy can be used to reinforce students' understanding of what they are expected to do.
- The "Ask three before me" strategy can be employed where students are expected to ask their three peers for clarification of directions before asking the teacher.
- During instruction, the teacher can provide the directions in steps so that the directions are easier for students to follow.

Things to Consider

- Test administrators should be familiar with the student receiving the designated support and should have reviewed guidelines and instructions prior to testing.
- Test administrators should not prompt or influence students in any way during the testing or read aloud content that is not included in the "Say" boxes of the Test Administration Manual.
- This designated support may require testing in a separate setting to avoid distracting other test takers.
- Students who are English learners may benefit from this resource.
- To ensure optimal understanding of the content, teachers should pronounce words correctly, speak in a clear voice, and be willing to repeat directions, if needed.
- When a student needs additional support to understand directions or instructions, the test administrator may simplify or paraphrase the language and verify the student's understanding.

Streamline

Overview

Description

Reduces the amount of text on the screen in an alternate, simplified, format in which the items are displayed below the stimuli rather than side by side in two different panes.

Student Benefits

Using this support can help students:

- Reduce the need to switch back and forth between text presented side by side
- Reduce visual complexity
- Reduce visual fatigue
- Increase readability by easing the access of the text for students who read braille
- Access information by breaking up text into more manageable sections

Suggested Materials

- Documents displaying text in one column instead of multiple columns
- Use of white space on documents
- Documents only displaying questions below text on assessments
- Websites, mobile apps, eBooks with readability mode
- Large print versions of reading material available. Books downloaded from sites such as Bookshare (www.bookshare.org) in print or braille for students with print disabilities

Instructional Use

- Braille materials are presented to students who use braille, either in paper or electronic format.
- Students regularly have access to documents in which the text is only presented in a sequential format.
- Students have a choice between a side-by-side or streamline presentation of materials.
- Students use electronic material including websites, mobile apps, and eBooks with readability mode, which puts material in a streamlined presentation.
- Braille materials are presented to students who use braille, either in paper or electronic format.

Things to Consider

- This designated support may benefit students with visual impairments or blindness.
- This designated support may benefit students who have specific learning disabilities, reading disabilities, or both, in which the text is presented in a more sequential format and less visually confusing.
- This designated support enables zoom levels greater than 3× in the assessment (may vary from state to state).
- Streamline presentation should be informed by evidence that this presentation meets the student's needs, and may vary depending on activities, environmental lighting, time of day, or visual fatigue of the student.
- Devices with larger screens will decrease the need for scrolling when employing the streamline support.

Text-to-Speech

Overview

Description

Text is read aloud to the student via embedded text-to-speech technology.

Student Benefits

Using this support can help students:

- Decode words
- Focus on comprehending text
- Understand grade-level content
- Read and write more easily
- Boost learning and memory

Suggested Materials

- Teacher or assistant who reads aloud text
- Computer software
- Built-in application on mobile devices
- Audiobooks
- Assistive Technology

Instructional Use

- Listening skills are taught using read-aloud material, and then students are checked for understanding.
- Students listen to a prerecorded audio interpretation (e.g., audiobooks, CDs) of a text or a book.
- Read problems aloud to students during instruction.
- Struggling readers can work autonomously at grade-level using text-to-speech applications, giving them the chance to set aside decoding challenges and move on to higher-level thinking.
- Teachers read question and answer choices to students.
- Students read question and answer choices for peers.

Things to Consider

- The student is able to control the speed and pitch, as well as raise or lower the volume of the voice via a volume control. Students should have ample opportunity to practice with these features and become comfortable with which settings work best for them.
- Text-to-speech is available as both a designated support and accommodation; teachers need to be aware of the differences. Refer to the Text-to-Speech Accommodation strategy for more information. As a designated support, Text-to-Speech is used for Math items and stimuli and for ELA items only.
- Students who are struggling readers may need assistance accessing the assessment by having all or portions of the assessment read aloud.
- This resource will likely be confusing and may impede the performance of students who do not regularly have the resource during instruction.
- Simulated voices may not provide the same emphasis and other qualities of a natural, human voice when reading.
- Students who use text-to-speech will need headphones unless tested individually in a separate setting.
- This resource also may be needed by:
  - students with reading-related disabilities,
  - students who are advancing toward English language proficiency,
  - struggling readers, or
  - students who are blind and do not yet have adequate braille skills.

Translated Test Directions

Overview

Description

Students can see test directions in another language.

Student Benefits

Using this support can help students:

- Clarify unknown words as used in the context of the text
- Facilitate understanding of what they are expected to do
- Improve English language proficiency
- Develop bilingual skills
- Develop critical and comparative thinking
- Increase confidence and reduce stress and anxiety

Suggested Materials

- Translated test directions
- Translated instructions on assignments
- Paper-based and online dictionaries and translation resources
- Assistive technology
- Online translation tools

Instructional Use

- Written translated test directions or translated instructions on assignments are provided on the page, on the board, or on a classroom visual media device.
- Students are provided both English and native language directions to build language skills and support their understanding of classroom directions.
- Students repeat or paraphrase test directions or instructions on assignments.
- Utilize students' knowledge on contents with their native language to further develop understanding of grade-level academic content knowledge and language skills.

Things to Consider

- This support is effective only when students use dual language. If the student has a weak understanding of their native language, this support will cause distractions and confusion.
- Students who are progressing toward English language proficiency (whether or not designated as ELs or ELs with disabilities) can use the translated test directions.
- A bilingual adult or a peer can read to a student.
- The use of this designated support may result in the student needing additional overall time to complete the assessment.
- Some online translated resources should be used with caution, as their quality and precision vary.
- Non-Embedded Translated test directions PDFs are available in the following languages:
    - Arabic
    - Burmese
    - Cantonese
    - Dakota
    - Filipino (Tagalog and Ilokano)
    - French
    - Haitian Creole
    - Hmong
    - Japanese
    - Korean
    - Lakota
    - Mandarin
    - Punjabi
    - Russian
    - Somali
    - Spanish
    - Ukrainian
    - Vietnamese
    - Yup'ik

Translations (Glossaries)

Overview

Description

Translation glossaries are provided for selected construct-irrelevant terms for mathematics.

Student Benefits

Using this support can help students:

- Clarify unknown words as used in the context of the text
- Identify useful text features for understanding new vocabulary in more than one language
- Offer an accurate source for word definitions in English or another language as related to the text
- Improve English language proficiency
- Boost academic vocabulary
- Foster reference skills
- Develop bilingual skills
- Remove barriers that prevent students from demonstrating mathematical skills
- Develop critical and comparative thinking
- Increase intercultural awareness

Suggested Materials

- Translation glossaries (instructional materials)
- Online translation applications and browser extensions
- Student-created glossaries
- Assistive technology and devices
- Visuals where appropriate to support language

Instructional Use

- Students use translation glossaries in their texts to facilitate transferring knowledge/skills from their primary language to English.
- Students create/use bilingual glossaries to find the meanings of content specific words (e.g., mathematics, science, and history).
- Glossaries may be located in the appendices of their textbooks or instructional materials.

- Back-to-back translations—students stand back-to-back, and one of them translates words, phrases, and sentences that the other student says.
- Students create two-sided flashcards with bilingual content.
- Students may use electronic or hard copies of glossaries to clarify vocabulary during math instruction.
- Teachers should use cognates (a word derived from the same root) or other terms to clarify language during instruction.

Things to Consider

- Words with translations are indicated by a faint dotted line and appear when user hovers over the word with a mouse.
- Students who are progressing toward English language proficiency (whether or not designated as English learners [ELs] or ELs with disabilities) can use the translation glossary for specific questions.
- The use of this designated support may result in the student needing additional overall time to complete the assessment.
- The translated glossaries are provided for selected construct-irrelevant terms for mathematics.
- Stacked translations are available in Spanish for students who need the entire item translated.
- Translations for these terms appear in pop-up boxes on the computer screen when students select them.
- This designated support can be set as either the language of translation or the language of translation and English.
- Students can also select the audio icon next to the glossary term and listen to the audio recording of the glossary.
- Some online translated resources should be used with caution, as their quality and precision vary.
- Teachers need to be interculturally competent and educate themselves about languages and cultures represented in their classroom, including language varieties and dialects.
- Current languages of translations for mathematics are as follows:
    - Arabic (standard and Egyptian)
    - Burmese
    - Cantonese (traditional and simplified)
    - Filipino (Ilokano and Tagalog)
    - Hmong (White and Green)
    - Korean
    - Mandarin (traditional and simplified)
    - Punjabi (Indian and Pakistani)
    - Russian

o Somali

o Spanish (El Salvador, Mexico, and Puerto Rico)

o Ukrainian

o Vietnamese (North and South)

Translations (Stacked)

Overview

Description

Stacked translations provide the full translation of each test item above the original item in English.

Student Benefits

Using this support can help students:

- Clarify unknown words as used in the context of the text
- By offering an accurate source for word definitions in English or Spanish as related to the text
- Boost academic vocabulary
- Foster reference skills
- Identify useful text features for understanding new vocabulary in English and Spanish
- Develop bilingual skills
- Improve English language proficiency
- Develop critical and comparative thinking
- Increase intercultural awareness

Suggested Materials

- English-Spanish paper-based and online glossaries
- Stacked or bilingual translations
- Student-created glossaries
- Assistive technology

Instructional Use

- Students utilize bilingual glossaries in textbooks to find the meanings of unknown words.
- Students use subject-area bilingual word lists.

- Students use bilingual translations during their instruction (homework, worksheets, etc.).
- Back-to-back translations—students stand back-to-back, and one of them translates words, phrases, and sentences that the other student says.
- Students create two-sided English-Spanish flashcards with bilingual content.
- Students are exposed to bilingual or subtitled English-Spanish content.
- Students interact in two languages with their peers or with native speakers of those languages.

Things to Consider

- This resource is for students whose primary language is Spanish, who use dual language supports in the classroom, or both.
- Stacked translations will likely be confusing and may impede the performance of students who have not used this support previously; students should use it in a practice or training test to ensure its appropriateness.
- The use of this designated support may result in the student needing additional overall time to complete the assessment.
- Teachers need to be interculturally competent and educate themselves about languages and cultures represented in their classroom, including language varieties and dialects.
- Some online translated resources should be used with caution, as their quality and precision vary.
- Translation glossaries may be more useful to students than stacked translations; however, exposure to both will help students select the best tool to meet their needs and preferences.

Turn Off Any Universal Tools

Overview

Description

Disabling any universal tools that might be distracting, or that students do not need to use, or that students are unable to use.

Student Benefits

Using this support can help students:

- Reduce unnecessary distractions
- Increase focus and productivity
- Use tools purposefully

- Increase productivity and save time

Suggested Materials

- Simplified materials
- Simplified tasks
- Simplified websites and software
- Customizable platforms
- Options for various classroom resources
- Preference of physical or digital tools

Instructional Use

- Resources can be minimized or eliminated depending on student need.
- Teachers can formulate instructional plans with students in order to best support their unique learning needs and preferences.
- Teachers can continuously observe/evaluate the use of accessibility resources to ensure that students use those resources meaningfully.
- Students provide feedback on helpfulness and preferences for accessibility resources.
- Students need simplified directions and tasks during regular instruction and assessments.
- Students can practice using the tools during practice and interim tests before the summative assessment.

Things to Consider

- Students who are easily distracted may be overwhelmed by some universal tools.
- The need for some resources may change over time (i.e., students who are learning English may no longer need dictionaries, as their English language proficiency increases).

Accessibility Strategies – Accommodations

100s Number Table

Overview

Description

This tool is a paper copy of a table listing numbers from 1–100 available from Smarter Balanced for reference.

Student Benefits

Using this accommodation can help students:

- Reason mathematically
- Communicate their mathematical thinking
- Make sense of mathematical ideas
- Build computation skills
- Increase fluency and accuracy
- Improve problem-solving abilities
- Increase logical reasoning
- Understand the number system
- Visually reference numbers in a familiar format

Suggested Materials

- Paper-based 100s number table
- Digital 100s number table
- 100s number table pocket chart or poster
- Manipulatives

Instructional Use

- Students use a 100s number table (often as a sticker on their desk) during everyday instruction and assessments.
- Students look for and make sense of the pattern and structure of the 100s number table to become computationally flexible and fluent.
- Students use a 100s number table to think about the base ten number system and to build a mental model of the mathematical structure of the number system.

- Struggling mathematicians can work autonomously at grade level using a 100s number table, giving them the chance to set aside computation challenges and move to higher-level thinking.
- Teachers model how to use a 100s number table through think-alouds and other strategies.

Things to Consider

- Students with visual processing or spatial perception needs may find this resource beneficial.
- A 100s number table provides alternate ways of approaching the same mathematical concept, giving students multiple ways to access mathematical knowledge.
- Students who are English learners may need additional time for working with this resource, as they often perform calculations in their mind in their native languages.
- When using a 100s number table as instructional support, continue to provide repeated opportunities for math fluency practices.

Abacus

Overview

Description

This tool may be used in place of scratch paper for students who typically use an abacus for manipulating large numbers.

Student Benefits

Using this accommodation can help students:

- Build a conceptual understanding of mathematics through hands-on experience
- Reason mathematically and make sense of mathematical ideas
- Communicate their mathematical thinking
- Build computational skills
- Increase fluency
- Improve problem-solving abilities
- Strengthen mental visualization skills

Suggested Materials

- Abacus
- Online abacus applications

- Counting devices (blocks, tiles, chips, beads, etc.)
- Scratch paper

Instructional Use

- Students use beads on the abacus to count during instruction.
- Students add, subtract, multiply, and divide during instruction with the abacus.
- Students struggling with mathematics can work autonomously at grade level using an abacus, giving them the chance to set aside computation challenges and move to higher-level thinking.
- Students can learn the history and cultural importance of the abacus for working with large numbers.

Things to Consider

- Some students with visual impairments or with documented processing impairments may find this resource beneficial.
- An abacus provides alternate ways of approaching the same concept, giving students multiple ways to access mathematical knowledge.
- Students with tactile learning needs and preferences may benefit from this resource.
- Students can construct their own abacus using basic tools and colored beads.

Alternate Response Options

Overview

Description

Alternate response options include, but are not limited to, adapted keyboards, large keyboards, Sticky Keys, MouseKeys, FilterKeys, adapted mouse, touch screen, head wands, and switches.

Student Benefits

Using this accommodation can help students:

- Simplify keyboard navigation
- By allowing touch screen navigation
- Simplify mouse use by eliminating the need to grasp the mouse, especially for dragging
- By responding to students' needs and preferences for assistive technology devices and programs
- Increase productivity

Suggested Materials

- Dictated responses
- Assistive technology
- Augmentative and alternative communication devices
- Instructional games compatible with assistive technology solutions

Instructional Use

- Students dictate responses to a teacher or an instructional assistant who records them.
- Students use communication boards, picture representations, or other augmentative and alternative communication devices to access and express instructional and assessment content.
- Students work with their peers who do not need the alternate response options accommodation to demonstrate various options of accessing and manipulating classroom content and promote an inclusive learning style.

Things to Consider

- Students with physical disabilities (including both fine motor and gross motor skills) may need to use the alternate response options accommodation.
- Some alternate response options are external devices that must be plugged in and be compatible with the assessment delivery platform.
- Plan the appropriate environment in which to test.
- An alternate response option that requires third-party software to run also requires the permissive mode test setting.
  - Check with your state assessment team well in advance of testing.

American Sign Language

Overview

Description

Test content is translated into an American Sign Language (ASL) video. An ASL human signer and the signed test content are viewed on the same screen.

Student Benefits

Using this accommodation can help students:

- Access educational materials and assessment items for Mathematics
- Access educational materials and assessment items for English Language Arts for Listening materials
- Improve English language proficiency
- Develop bilingual skills
- Develop critical and comparative thinking
- Clarify unknown information used in the context of the text
- Increase intercultural awareness

Suggested Materials

- American Sign Language translation websites and applications
- Use of a Certified Deaf Interpreter
- State practice test with ASL videos for Mathematics and English Language Arts Listening items
- Closed captioning
- Elementary picture books that include pictures of signs to help increase intercultural competence among students

Instructional Use

- The teacher signs during instruction or the student uses a Certified Deaf Interpreter to translate instruction and communicate with the teacher.
- Instruction in STEM areas uses technical, content-specific signs.
- Students sign instructional materials for each other.
- Teachers and students teach ASL signs to those students who do not know the language.

Things to Consider

- Some students who are deaf or hard of hearing and who typically use ASL may need this accommodation when accessing text-based content in the assessment for Mathematics.
- The use of this accommodation may result in the student needing additional overall time to complete the assessment.
- ASL is a language with its own grammar and sentence structure that also includes regional and stylistic diversity (e.g., regional terms, jargon, slang). Students may need additional support during instruction from a teacher for the deaf and/or a teacher of English language acquisition.

- For many students who are deaf or hard of hearing, viewing signs is the primary way to access information presented orally. It is important to note, however, that some students who are hard of hearing may be able to access some auditory information if provided with appropriate amplification and a setting in which extraneous sounds do not interfere with clear presentation of the audio presentation in a Listening test.
- Students who are deaf or hard of hearing and visually impaired or blind (deafblind) may use hand-under-hand signing for access using ASL.
- The student may use another sign system and may need state-level approval to use other sign systems on assessments.
- Teachers need to be familiar with the guidelines of working with ASL interpreters (e.g., slowing down for the interpreter if necessary, correctly positioning themselves in the classroom, making sure their communication is visible to lip readers).
- Availability of ASL videos on assessment may vary from state to state.
- Teachers need to be interculturally competent and educate themselves about sign languages and cultures represented in their classrooms, including language varieties and dialects.
- Some online translated resources should be used with caution, as their quality and precision vary.
- Educators should ensure that educational resources include closed captioning if their students rely on this additional resource.
- Instruction in STEM areas should include technical signs.

Braille

Overview

Description

Braille is a raised-dot code that individuals read with the fingertips. Written and graphic materials (e.g., maps, charts, graphs, diagrams, and illustrations) are presented in a raised format.

Student Benefits

Using this accommodation can help students:

- Access printed materials
- Read and write for educational and assessment access
- Improve decoding skills
- Clarify unknown information used in the text

- Improve English language proficiency
- Increase intercultural awareness

Suggested Materials

- Braille resources (paper or electronic format)
- Perkins Brailler (braillewriter)
- Braille books and materials for all subjects, including textbooks, reading books, STEM materials, teacher-created materials, classroom posters, etc.
- eBooks, ePub, Bookshare materials in braille
- Computer with screen reader (reads text aloud) and refreshable braille display
- Braille notetakers (standalone electronic braille devices)
- Braille embossers for text and/or for tactile graphics
- Slate and stylus

Instructional Use

- Instructional materials and assignments are presented and completed in braille, either in paper format or electronically.
- Tactile graphics and skills related to interpretation of tactile materials are part of daily instruction.
- Students may have additional support from a teacher for the visually impaired.
- Teachers and students teach braille to their peers with vision.
- Teachers write braille notes to students and place them in unexpected places to create interest and a sense of excitement in using braille; later, students can be encouraged to write notes to the teacher or students with visual impairments and others.

Things to Consider

- Tactile overlays and graphics also may be used to assist the student to access content.
- Students will need direct instruction in braille and interpreting tactile graphics and will have varying degrees of skill level. Tactile graphics should not be presented in isolation during instruction. Connections from 3-dimensional materials to 2-dimensional materials should be systematically taught.
- Contracted and non-contracted braille is available in English Braille American Edition (EBAE), Unified English Braille (UEB), Nemeth (mathematics), and UEB Technical (mathematics).
- Producing braille materials takes time and expertise. Teachers should share materials with teachers of the visually impaired or braille transcribers well in advance of instruction.

- The use of this accommodation may result in the student needing additional overall time to complete the assessment.

Braille Transcript

Overview

Description

This tool is a braille transcript of the closed captioning created for the listening passages.

Student Benefits

Using this accommodation can help students:

- Access listening passages—for students who are deaf or hard of hearing and visually impaired or blind (deafblind)
- Improve decoding skills
- Improve English language proficiency
- Increase intercultural awareness

Suggested Materials

- Braille transcript
- Braille resources (paper or electronic format)
- Perkins Brailler (braillewriter)
- Braille books and materials for all subjects, including textbooks, reading books, STEM materials, teacher created materials, classroom posters, etc.
- eBooks, ePub, and Bookshare books in braille
- Computer with a screen reader (reads text aloud) and refreshable braille display
- Braille notetakers (stand-alone electronic braille devices)
- Braille embossers for text and/or for tactile graphics
- Slate and stylus

Instructional Use

- If in-class videos and films with closed captioning are used, a braille copy of the closed captioning is provided.

- If closed captioning is used in foreign-language classes, a braille copy of the closed captioning is provided.
- Instructional materials and assignments are completed in braille.

Things to Consider

- Some students who are deaf or hard of hearing, visually impaired, or both (deafblind) may have difficulty with portions of the assessment that require listening, and the closed-captioning does not provide adequate support to assist these students while testing.
- Braille transcripts are available in contracted and non-contracted form in English Braille American Edition (EBAE), Unified English Braille (UEB), Nemeth (mathematics), and UEB Technical (mathematics).
- Availability of braille transcripts may vary from state to state on assessments.
- Students may receive hand-under-hand signing (ASL or other sign system) while auditory instruction or materials are presented.

Calculator

Overview

Description

A non-embedded calculator can be used for calculator-allowed items by students who need a special calculator, such as a braille calculator or a talking calculator, currently unavailable within the assessment platform.

Student Benefits

Using this accommodation can help students:

- Make fast and accurate calculations
- Understand calculations
- Reduce the complexity of solving problems
- Promote higher order thinking and reasoning needed for problem-solving
- Recognize and extend numeric, algebraic, and geometric patterns and relationships

Suggested Materials

- Braille calculators

- Talking calculators
- Handheld calculators
- Online Desmos calculators
- Computer-based calculators
- Adapted calculators
- Calculators on assistive technology devices

Instructional Use

- Calculators can be used to do basic calculations in multi-step mathematics processes that are not being assessed.
- Calculators help with mathematical accuracy.
- Calculators assist teachers and students in increasing students' understanding of fluency with arithmetic operations, algorithms, and numerical relationships and enhancing student motivation and creativity.
- Students with computational difficulties are better able to access grade-level material when they are able to use a calculator.

Things to Consider

- Students with visual impairments who are unable to use the embedded calculator for calculator-allowed items will be able to use the calculator that they typically use, such as a braille calculator or a talking calculator.
- A student may use the calculator offered with assistive technology devices (such as a talking calculator or a braille calculator).
- Test administrators should ensure that the calculator is available only for designated calculator-allowed items.
- Teachers model and students practice using calculators.
- Calculators are useful tools for validating work.
- Teachers need to model using calculators as tools for basic calculation to complete multi-step math questions.
- Students are allowed to choose when to use a calculator to best support their accessibility needs and preferences.
- Teachers model and students practice using Desmos calculators:
  - http://calculator.smarterbalanced.org

Closed Captioning

Overview

Description

Closed captioning is printed text that appears on the computer screen as audio materials are presented.

Student Benefits

Using this accommodation can help students:

- Clarify information presented in video or audio format
- Improve reading comprehension
- Improve retention
- Improve focus
- Improve decoding skills
- Improve vocabulary acquisition, listening comprehension, word recognition, and decoding skills

Suggested Materials

- Instructional videos
- Movies, documentaries, songs, and other multimedia resources
- Transcripts

Instructional Use

- In-class videos and films are used that contain closed captioning.
- Students see and hear unfamiliar words through closed captioning, which can help improve their understanding of the content.
- Students are exposed to content in various languages with closed captioning.

Things to Consider

- Students who are deaf or hard of hearing and who typically access information presented via audio by reading words that appear in synchrony with the audio presentation may need this resource to access audio content.
- Subtitles and captions provide missing information for individuals who have difficulty processing speech and auditory components of visual media.

- Some video formats allow students to search for keywords, concepts, speakers, and more while the video is playing; this allows students to jump directly to concepts and terms they need without watching the entire video.
- It is important to provide closed-captioning transcripts for those students who need them. Students are able to read along and make notes within transcripts.
- Quality of closed captioning varies; teachers should always check the transcripts against the original text.

Multiplication Table

Overview

Description

A paper-based, single-digit (1–9) multiplication table will be available from Smarter Balanced for reference.

Student Benefits

Using this accommodation can help students:

- Reason mathematically
- Communicate mathematical thinking
- Make sense of mathematical ideas
- Build computation skills
- Increase fluency and accuracy
- Improve problem-solving abilities
- Increase logical reasoning

Suggested Materials

- Paper-based multiplication table
- Digital multiplication table
- Manipulatives

Instructional Use

- Teacher models how to use a multiplication table through think-alouds, visual tools, and other strategies.

- Students use a multiplication table during regular instruction and assessments.
- Students look for and make sense of the pattern and structure of the multiplication table to become computationally flexible and fluent.
- Struggling mathematicians can work autonomously at grade level using a multiplication table, giving them the chance to set aside computation challenges and move to higher-level thinking.

Things to Consider

- This assessment accommodation is for students with a documented and persistent calculation disability (i.e., dyscalculia).
- The multiplication table for assessment is a paper-based, single-digit (1–9) multiplication table.
- A multiplication table provides alternate ways of approaching the same concept, giving students multiple ways to access mathematical knowledge.
- Students who are English learners may need additional time for working with this resource, as they often perform calculations in their mind in their native language.

Print on Demand

Overview

Description

Paper copies of passages/stimuli and/or items are printed for students.

Student Benefits

Using this accommodation can help students:

- Access text presented online, in print, or braille
- Reduce visual fatigue
- Access stand-alone low vision devices for magnifying print beyond embedded zoom or magnification
- Develop decoding and comprehension skills

Suggested Materials

- Printed or embossed (braille) materials
- Projectors
- Instructional activity handouts

- Assistive technology for magnification

Instructional Use

- Teacher-provided print materials are used to facilitate learning activities.
- Photocopies of passages are used instead of textbooks so that students can write and/or highlight.
- Students make notes and complete activities on printed materials.
- Students are allowed the opportunity to choose whether to work in a digital or print format for classroom assignments and assessments.

Things to Consider

- A very small percentage of students should need this accommodation.
- The use of this accommodation may result in the student needing additional time to complete the assessment.
- Students who do not use technology for cultural reasons are likely to benefit from this resource.
- Larger font or paper size should be considered for students with visual impairments. Highlighters should be available in a variety of colors to accommodate students who have issues with color perception.
- Students with visual impairment or visual perceptual issues, including students with learning disabilities, could benefit from this tool.

Read Aloud

Overview

Description

Text is read aloud to the student via an external screen reader or by a trained and qualified human reader.

Student Benefits

Using this accommodation can help students:

- Decode words
- Focus on comprehending text
- Understand grade-level content

- Read and write more easily
- Boost learning and memory
- Access test content when text-to-speech is not an option

Suggested Materials

- Teacher or assistant who reads aloud instructions and/or text
- Computer software
- Built-in applications on mobile devices
- Audiobooks
- Assistive Technology

Instructional Use

- Listening skills are taught using read aloud material, and then students are checked for understanding.
- Students listen to a prerecorded audio interpretation (audiobook) of text or a book.
- Struggling readers can work autonomously at grade-level using text-to-speech applications, giving them the chance to set aside decoding challenges and move on to higher-level thinking.
- Teachers chunk reading materials and ask students comprehension questions after each chunk of text.
- Students read text for each other, or material is read by a paraprofessional.

Things to Consider

- This accommodation is appropriate for a very small number of students.
- Readers can use Read Aloud guidelines available on the Smarter Balanced website to educate themselves about various aspects of this support.
- A student should have the option of asking a reader to slow down or repeat text.
- The use of this accommodation may result in the student needing additional time to complete the assessment, the use of a separate setting, or both.
- Students should be regularly using a human reader in the classroom if they are using this support during testing.
- A human reader should be someone familiar to the student who regularly provides read aloud support to students in the classroom.
- Readers should review Guidelines for Read Aloud to familiarize themselves with reading protocol and language.
- This resource also may be needed by:
  - Students with reading related disabilities

- o Students who are blind and do not yet have adequate braille skills
- o Struggling readers including EL students who are advancing toward English language proficiency
- o Students whose learning style is auditory
- When Read Aloud is being utilized as an instructional support, plan independent activities as a follow up to reduce the dependency on the Read Aloud.

Scribe

Overview

Description

Students dictate (e.g., via voice, braille, American Sign Language) their responses to a human who records verbatim what they dictate.

Student Benefits

Using this accommodation can help students:

- Respond to test content
- Communicate
- Produce legible writing
- Demonstrate writing composition and dictation skills
- Improve English language proficiency
- Demonstrate organizational skills
- Increase quantity of writing
- Reduce testing anxiety

Suggested Materials

- Scribes
- Audio recording devices
- Assistive Technology
- Writing utensils
- Paper
- Designated location

Instructional Use

- Students can use a scribe as an alternative to writing when a processing or physical challenge is present. A trained adult then transcribes the student's response word-for-word on the student's test or assignment.
- By removing the physical barriers to writing and navigation of the computer, a student can get increased access to technology and classroom activities.
- Teachers use scribing for students to encourage writing that is more thoughtful and deliberate.
- Students dictate their responses to instructional tasks to each other and check the written content for correctness.

Things to Consider

- Students who have documented significant motor or processing difficulties, or who have had a recent injury (such as a broken hand or arm) that makes it difficult to produce responses may need to dictate their responses to a human, who then records the students' responses verbatim.
- The use of this accommodation may result in the student needing overall additional time to complete the assessment.
- For many of these students, dictating is the only way to demonstrate their composition skills.
- It is important that these students be able to develop planning notes via the human scribe, and to view what they produce while composing via dictation to the scribe.
- It is important for students to remember to provide information on such linguistic aspects as punctuation and capitalization.
- Smarter Balanced scribe guidelines are very specific and must be read and internalized as they provide additional information on administering this accommodation during testing.
- Students should have the opportunity to practice dictation using technology when a scribe is unavailable.
- Students using scribes may need separate test locations in order to reduce distractions and/or inadvertently reveal answers to other students.
- Ensure that there are enough trained scribes to meet the needs of a school's population.
- Students should be using a scribe regularly in the classroom if they are going to use this accommodation while testing.
- Students with social emotional concerns may be better able to demonstrate their knowledge with a scribe.

Speech-to-Text

Overview

Description

Allows students to use their voices as input devices to the computer, to dictate responses or give commands (e.g., opening application programs, pulling down menus, and saving work). Students may use their own assistive technology devices.

Student Benefits

Using this accommodation can help students:

- Express themselves without physically typing or writing
- Improve communication skills
- Produce legible text
- Demonstrate writing composition skills
- Improve writing efficiency
- Improve speaking/articulation skills
- Improve English language proficiency
- Organize ideas, develop paragraphs, edit, and revise writing

Suggested Materials

- Audio recording devices
- Scribes
- Accessibility settings
- Specific computer programs, software, applications, or extensions
- Assistive Technology

Instructional Use

- Students can use accessibility settings, software, or other tools as an alternative to writing or typing in order to produce work that requires textual responses.
- Students use audio-recording devices or scribes as alternatives to writing when a processing or physical challenge is present. A trained adult may then transcribe the student's response word-for-word on the student's test or assignment.
- For students with motor skill limitations, physical disabilities, blindness/low vision, or other difficulties accessing a standard keyboard and mouse, voice dictation may be beneficial.

- By removing the physical barriers to writing and navigation of the computer, student's access to technology and classroom activities can be increased.
- Teachers use speech recognition technology for students to encourage writing that is more thoughtful and deliberate.
- Students dictate their responses to instructional tasks to each other and check the written content for correctness utilizing speech-to-text.

Things to Consider

- Students who have motor or processing disabilities (such as dyslexia) or who have had a recent injury (such as a broken hand or arm) that makes it difficult to produce text or commands using computer keys may need alternative ways to work with computers.
- Students will need to be familiar with devices, software, and/or applications through many opportunities for practice prior to testing.
- Speech-to-text software requires students to go back through all generated text to correct errors in transcription, including the use of writing conventions; thus, prior experience with this accommodation is essential.
- If students use their own assistive technology devices, all assessment content should be deleted from these devices after the test for security purposes.
- For many students who are qualified for the speech-to-text accommodation, using voice recognition software is the only way to demonstrate composition skills. Use of speech-to-text requires students to know writing conventions. They need to know how to revise and edit text through dictation.
- It is important that students who use speech-to-text also be able to develop planning notes via speech-to-text, and to view what they produce while composing via speech-to-text.
- It is important for students to remember to provide information on such linguistic aspects as punctuation and capitalization.
- Students may need additional time to complete tasks.
- Speech-to-text requires a third-party software to run and requires the permissive mode test setting. Check with your state and local assessment team well in advance of testing.

Text-to-Speech

Overview

Description

Text is read aloud to the student via embedded text-to-speech technology.

Student Benefits

Using this accommodation can help students:

- Decode words
- Focus on comprehending text
- Understand grade-level content
- Read and write more easily
- Boost learning and memory

Suggested Materials

- Teacher or assistant reads aloud text
- Computer software
- Built-in applications on mobile devices
- Audiobooks
- Assistive Technology

Instructional Use

- Listening skills are taught using read-aloud material, followed by a check for understanding.
- Students listen to a prerecorded audio interpretation (audiobook) of text or a book while following the text.
- Struggling readers can work autonomously at grade-level using text-to-speech applications, giving them the chance to set aside decoding challenges and move on to using higher-level thinking skills.
- Teachers can chunk or divide reading materials and ask students comprehension questions after each chunk of text.
- Students read aloud the question and answer choices for peers.

Things to Consider

- The student is able to control the speed and pitch using corresponding settings, as well as raise or lower the volume of the voice via a volume control.
- Students should have ample opportunity to practice with these features and become comfortable with which settings work best for them.
- Students who are struggling readers may need assistance accessing the assessment by having all or portions of the assessment read aloud.

- This resource will likely be confusing and may impede the performance of students who do not regularly have the resource during instruction.
- Simulated voices may not provide the same emphasis and other qualities of a natural, human voice when reading.
- Students who use text-to-speech will need headphones unless tested individually in a separate setting.
- This accommodation is appropriate for a very small number of students with a documented need in an IEP or Section 504 plan.

Word Prediction

Overview

Description

Allows students to begin writing a word and choose from a list of words that have been predicted from word frequency and syntax rules.

Student Benefits

Using this accommodation can help students:

- Produce writing in a timely manner
- Improve spelling
- Improve writing efficiency
- Improve communication skills
- Demonstrate writing composition skills
- Improve English language proficiency
- Increase creativity

Suggested Materials

- Software programs
- Applications on mobile devices
- Applications on assistive technology devices

Instructional Use

- Students begin writing a word and choose from a list of words that have been predicted from word frequency and syntax rules as part of instructional activities and to complete classwork.
- Students use word prediction software for extra support so they can focus on the ideas they are trying to express.
- Students with motor impairments use fewer keystrokes since word prediction begins after a few selected characters.

Things to Consider

- The following students may use word prediction:
  - Students with documented motor or orthopedic impairments that impair their ability to provide written or typed responses without the use of assistive technology.
  - Students with moderate to severe learning disabilities that prevent them from recalling, processing, or expressing written language.
  - Students who are advancing toward English language proficiency.
- Students will need to be familiar with the software and should have had many opportunities to use it prior to testing.
- Using word prediction software does require that students know writing conventions and that they have the review and editing skills required of students who enter text via the computer keyboard.
- For the assessment, the student's word prediction solution used must adhere to the following guidelines:
  - The software must predict a single word only.
  - Phonetic spelling and speech output may be used.
  - Functionality that provides phrase prediction, predict ahead, or next word must be disabled prior to testing.
  - Expanded dictionaries must be disabled.