

DRCINSIGHT ONLINE LEARNING SYSTEM

LEAP 2025 Accommodations and Accessibility Features User Guide

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LEAP 2025 Accommodations and Accessibility Features TABLE OF CONTENTS

Introduction		6
Determining Eligibility		6
	LEAP Student Access Goals	7
LEAP Assessment Feature Categ	gories	7
	LEAP 2025 Administrative Considerations	8
	Test Administration Procedures for Students with an IEP	8
	Test Administration Procedures for Students with an IAP (50	± '
	Test Administration Procedures for Students with an EL Accommodation Checklist	8
Coding Cotogorios for Students	Personal Needs Profile (PNP) with Special Needs	
	_	
Assessment Features for All		
	Table 1: Features for All	
	Table 2: Accessibility Features	
	Table 3: Accommodations	
Appendix Procedures for Huma	n Readers Providing the Human Reader Accommodation	31
Appendix B: Guidance for Selec	ting and Administering the Extended Time Accommodation	33
Appendix C: ELA Read Aloud G	Guidelines	34
	Guidelines	
	Guidennes	
Sympols		
	Angles/Triangles (\angle and Δ)	
	Ratios (:) Equal Signs (=)	
	Pi (π)	
	Approximately equal to (\approx)	
	Less than (<)	
	Less than or equal to (\leq)	
	Greater than (>)	
	Greater than or equal to (\geq)	41
	Dashes (-)	
	Temperatures (°F and °C)	
	Parallels ()	
	Perpendiculars (1)	
	Abbreviations (ft., km)	
	Measurement (", ', and cm2) Number Signs (#)	
	Empty/Unknown Boxes (\Box)	
	Not equal to (\neq)	
	Arc ()	
	Infinity (∞)	
	Percent (%)	
	Lines: Line Segment, Line, and Ray (FG, JK, LM)	46
	Similar to (~)	
	Therefore (:.)	47

TABLE OF CONTENTS Numbers Radicals......61 Absolute Values62 System of Equations/Inequalities64 Bar Graphs......67 Histograms......69 Line Graphs71 Scatter Plots75

LEAP 2025 Accommodations and Accessibility Features

LEAP 2025 Accommodations and Accessibility Features TABLE OF CONTENTS

Appendix E	IABLE OF CONTENT
Prot	ocol for Recorded Answers Accommodation and Transcribing
Stuc	lent Responses 101
Qua	lifications of the Scribe 101
Adr	ninistering the Scribe Accommodation102
Add	litional Guidelines for the English Language Arts(ELA) Assessment
Con	structed Responses 102
Scri	be Parameters during the Assessment103
Spe	cial Considerations When Scribing for a Student Who Uses
Sigr	103 Language or Cued Speech
Use	of Speech-to-Text/Voice-Recognition Software/Devices 104
Gui	delines for Transcribing Student Responses (Paper-based testing
only	<i>i</i>)104
Prod	cedures for Transcribing Student Responses for Computer-Based
Test	ting 105
Con	structed Response Items105

Introduction Roles in Determining Eligibility

State Leaders:

- Determine the minimum criteria a student must meet in order to receive an accommodation
- Determine the process and rules to administer each accommodation accurately

School System Leaders:

- Provide guidance on process and timelines for completion
- Work with schools to ensure comparability
- Ensure appropriate evidence and documentation are used in the decision-making process

School Leaders:

- Ensure completion of process and adherence to timelines
- Participate in school-level team decision-making process
- Use appropriate evidence and documentation in the decision-making process

Teachers:

- Ensure use of accessibility accommodations in the classroom on a regular basis
- Use appropriate evidence and documentation in decision-making process
- Gather evidence that the support increases access to instruction and results show improvement of content knowledge
- Participate in school-level team decision-making process
- Monitor for continued effectiveness of accessibility and accommodations

Determining Eligibility

To determine if the accommodation is appropriate, the Individual Education Plan (IEP), Individual Accommodation Plan (IAP), or English Learner (EL) team must use evaluation results to determine that the student's disability severely limits the student's ability to gain meaning from written language. Accessibility features and accommodations are intended to increase a student's access to the assessment but will not compensate for a student's lack of academic/content knowledge and skills.

There must be documentation of:

- remedial reading services outside of the regular classroom setting
- student's reading level as indicated on a current reading skills assessment as indicated on a current skills assessment, IEP, or instructional goals related to reading development
- response to intervention (RTI) model and outcomes such as the use of research or evidencebased interventions
- aids and/or services provided to the student to support reading instruction

Steps to use when engaging in the accessibility and accommodations determinations:

Step 1: Ensure that accessibility and accommodations are used regularly in the classroom.

Step 2: Gather evidence that supports increased access during instruction and assessments (observation and performance/assessment data).

Step 3: Meet as a team (teacher, parent, student, and other relevant stakeholders) to discuss accessibility and accommodations and create the plan of support.

Step 4: Measure the continued effectiveness of the accessibility and accommodations through classroom observation and performance data. Adjust as needed.

LEAP 2025 Student Access Goals

The Louisiana Department of Education is committed to ensuring that all students are able to demonstrate the degree of achievement the student actually possesses. Louisiana's goals for promoting student access include using accessibility and accommodations, when needed, to:

- provide equal opportunities in assessment, without giving students an unfair advantage over other students or subvert or invalidate the purpose of the test.
- allow the test score to reflect the student's proficiency in the area tested.
- provide valid and accurate measures of the student's abilities.

LEAP 2025 Assessment Feature Categories

The following table describes the three categories of assessment features on the LEAP 2025 Assessments.

Category	Definition	
Features for All	 Assessment features that are available to all students Features may be externally delivered by a test administrator Students determine whether they wish to use the feature on an item-by- item basis 	
Accessibility Features	 Must be available to all students but must be documented on a Personal Needs Profile (<u>PNP</u>), <u>IAP</u>, <u>EL Accommodation Checklist</u>, or <u>IEP</u> for planning and documentation purposes Guidance on activating features is in the eDIRECT User Guide in eDIRECT 	
Accommodations	 Adaptations or adjustments available to students who have an IEP, IAP, or <u>EL</u> Accommodation Checklists and must be documented on a <u>PNP</u>, <u>IAP</u>, <u>EL Accommodation Checklist</u>, or <u>IEP</u> for planning and documentation purposes. Accommodations must be available to students who have an IEP, IAP, or EL Accommodation Checklist. Guidance on activating features is in the eDIRECT User Guide in eDIRECT 	

New accommodations or changes to an accommodation must be made to a student's EL Accommodation Checklist, IEP, IAP, or PNP 30 days prior to the start of the test administration window. If a testing group includes students approved for accommodations, the School Test Coordinator must provide the test administrator with a list of accessibility features and accommodations for each student. as well as training or guidance on providing the accessibility features or accommodations. Students who receive the same accommodations may be tested together for the same grade level assessment.

LEAP 2025 Administrative Considerations

Test Administration Procedures for Students with an IEP

Test accommodations are permitted to students with an IEP if they are routinely provided in their regular instructional and assessment programs. Decisions in determining the need for testing accommodations are made by the IEP team using the Department-approved criteria (IEP Form) and/or the <u>Unique</u> <u>Accommodation</u> approval process. Selection of appropriate accommodations is facilitated by a review of the student's current instructional and classroom assessment accommodations and a clear understanding of the test format and what it measures and should be regularly reassessed to ensure continued effectiveness throughout the school year. Test accommodations may not be used if the student does not have a current IEP.

All IEPs must be submitted in the Special Education Reporting site (SER). Additionally, certain test accommodations must be indicated in eDIRECT. More than one accommodation may be used.

Test Administration Procedures for Students with an IAP (504 plan)

Test accommodations are permitted for students with an IAP (504 plan) if they are routinely provided in the students' regular instructional and assessment program and if the other conditions specified in the administrative guidelines for Students with Disabilities according to Section 504 of the Rehabilitation Act of 1973 are met. Local 504 coordinators and test coordinators should work together to ensure that all test accommodations are indicated on the IAP and/or the <u>Unique Accommodation</u> approval process, the accommodations are being used in the classroom 30 days prior to the start of the test administration window, and the accommodations must be uploaded in the Student Information System (SIS). Accommodations should be based on evidence of being both appropriate and effective and regularly monitored to ensure continued effectiveness. Test accommodations may not be used if students do not have a current IAP.

School systems must have a system of documenting and tracking test accommodations for all students who receive Section 504 services. The Department does not require submission of this documentation unless specifically requested for unique accommodation determinations or test security investigations.

Certain test accommodations that are used must be indicated in eDIRECT for planning and reporting purposes. More than one accommodation may be used.

Test Administration Procedures for Students with an EL Accommodation Checklist

Decisions in determining the need for testing accessibility and accommodations are made by a school-level team and then documented in the student's EL accommodations checklist and/or the <u>Unique</u> <u>Accommodation</u> approval process. Selection of appropriate accommodations is facilitated by a review of the student's current instructional and classroom assessment accommodations with a clear understanding of the test format and what it measures. The assessment accommodations should be regularly reassessed to ensure effectiveness throughout the school year. Additionally, certain test accommodations must be indicated in eDIRECT. More than one accommodation may be used.

Personal Needs Profile (PNP)

Accessibility features are those assessment supports available to all students, not just students with disabilities or English Learners. In order to individualize the testing experience and increase access to the high school assessments for all students, the Personal Needs Profile (PNP) should be created by the school-level committee at least 30 days before the start of the state test administration window. Selections of accessibility features on the PNP should be based on instructional observations and supports that have been found to increase access during instruction and assessment and adjusted as needed. Additionally, certain test accessibility features must be indicated in eDIRECT.

Category	Description
Students with Special Needs (students with an IEP)	All students with special needs defined by IDEA can be tested, except for those who meet the criteria to take the Alternate Assessment.
	For students taking the paper-based test (PBT) , Yes must be bubbled in the <i>Special Education Classification</i> field on the student's answer document, and the student's primary exceptionality must be coded in the <i>Special Education Exceptionality</i> field.
	For students taking the computer-based test (CBT) , Yes must be selected in the <i>Special Education Student</i> field, and the student's primary exceptionality code must be selected in the <i>Special Education Exceptionality</i> field.
	Specific accommodations listed on the IEP form or approved as a Unique Accommodation may be used if the accommodations are addressed in the students' IEPs and routinely used in classroom instruction and assessment.
	Certain test accommodations must be coded in the <i>Special Education Student TestAccommodations</i> field on students' answer documents for students taking the PBT and selected in the Accommodations tab in eDIRECT for students taking the CBT for planning and reporting purposes. More than one accommodation may be used.
Students with Special Needs Defined by Section 504 (students with an IAP)	For testing, the LDOE has adopted the definition of disability as derived from the regulations for Section 504 of the Rehabilitation Act of 1973. For the definition and eligibility requirements, see <i>Bulletin 118</i> . All students with one or more disabilities, according to Section 504, are to be tested.
	For students taking the PBT , Yes must be coded in the field asking if the student is eligible for services according to Section 504. Additionally, certain accommodations must be bubbled in the <i>Test Accommodation(s) for Students with Disabilities According to Section 504</i> field for planning and reporting purposes.
	For students taking the CBT , No must be selected in the <i>Special Education</i> <i>Student</i> field, and Yes must be coded in the field asking if the student is eligible for services according to Section 504. Additionally, certain accommodations are to be selected in the student's Accommodations tab within eDIRECT for planning and reporting purposes.

Coding Categories for Students with Special Needs

Category	Description
Gifted and Talented Special Education Students (students with an IEP)	Students may be designated as gifted, as talented, or as both. Students so designated are classified by the State as special education and should be so coded in the <i>Education Classification field</i> . Their scores, however, are aggregated with those of regular education students in roster and summary reports.
	If students are designated both gifted and talented, then <i>Gifted</i> should be coded as the primary exceptionality.
	Students may also qualify under Section 504 and be eligible for accommodations in testing. Such students should be coded both as special education and as Section 504. An IAP must have been completed for the student to receive test accommodations. Additionally, certain accommodations must be coded under Section 504 after testing is completed. More than one accommodation may be used.
Limited English Proficient Students (students with an EL Accommodation Checklist)	 Every Student Succeeds Act (ESSA) requires states to annually assess English proficiency in listening, speaking, reading, writing, and comprehension and to report annual progress or attainment of English proficiency for all students identified as English learners (EL) in kindergarten through grade 12. For students taking the PBT, Yes must be bubbled in the <i>Is the Student an English Learner (EL)</i> field on the student's answer document, and certain accommodations are to be bubbled in the <i>Limited English Proficient Student Test Accommodation(s)</i> field for planning and reporting purposes. For students taking the CBT, Yes must be selected in the <i>English learner</i> field, and certain accommodations must be selected in the <i>Accommodations</i> tab in eDIRECT for planning and reporting.

Coding Categories for Students with Special Needs

Assessment Features for All

The following sections will describe the assessment features that are available to all, the accessibility features, and accommodations.

The following table describes the universal features available to all students taking the LEAP 2025 assessments. These features are readily available and do not require any documentation either ahead of time or during the assessment.

Feature	PBT Description	CBT Description
Blank Scratch Paper and Graph Paper (provided by the Test Administrator)	 Before Testing: Students should be provided a piece of blank scratch paper or graph paper during the administration of the assessment. During Testing: Students use the blank scratch paper or graph paper to take notes and/or work through items. Additional pages may be provided as needed. After Testing: Test Administrators are responsible for collecting all scratch and/or graph paper after testing is completed. Scratch paper must be securely shredded if it has been used. Unused scratch paper may be reused. 	 Before Testing: Students should be provided a piece of blank scratch paper or graph paper during the administration of the assessment. During Testing: Students use the blank scratch paper or graph paper to take notes and/or work through items. Additional pages may be provided as needed. After Testing: Test Administrators are responsible for collecting all scratch and/or graph paper after testing is completed. Scratch paper must be securely shredded if it has been used. Unused scratch paper may be reused.
Calculator (for calculator sections only)	Before Testing: Grade 6-12 students are provided a hand-held calculator.	Students will be able to electronically access a grade-appropriate calculator during the calculator sections of the assessment. Refer to the Assessment Guides for information on the type of calculator allowable for each grade.During Testing: The calculator will be available during calculator sessions only. To activate this tool, the student will click on the student will click on the Tools Bar at the top of the testing window. A calculator will appear.
Color Overlay	Before Testing : Students may be provided with the necessary overlay supplies.	Please see Contrasting Colors/Reverse Colors.

 Table 1: Features for All

Feature	PBT Description	CBT Description
Contrasting Colors/ Reverse Colors	Please see Color Overlay.	 A variety of background colors and font colors are available to make test questions easier to read. During Testing: To change the background or font color, students will click on the OPTIONS icon once logged into a test. There are three options available: Color Choices: Changes the background color that appears behind all text and graphics Contrasting Color: Changes both the background color and font color at the same time Reverse Contrast: Reverses the text and background colors that are selected
Directions in Native	Materials: Written general	Materials: Written general
Directions in Native Language	 Materials: Written general administration directions will be available for the following languages: Arabic Cantonese Mandarin French Spanish Urdu Vietnamese Before Testing: Translated directions must be downloaded from the eDIRECT Documents page and on-hand before testing begins. After Testing: Native Directions must be bubbled in the Limited English Proficient Student Accommodation(s) field on the student's answer document. 	Materials: Written general administration directions will be available for the following languages: Arabic Cantonese Mandarin French Spanish Urdu Vietnamese Before Testing: Translated directions must be downloaded from the eDIRECT Documents page and on-hand before testing begins. The <i>Directions in Native</i> <i>Language</i> accommodation must be activated within the student's Accommodations tab within eDIRECT for whichever content area(s) this accommodation applies.

 Table 1: Features for All

Feature	PBT Description	CBT Description
Equation Builder	N/A	 This is the online tool used to enter and edit symbols not found on the keyboard to create an expression or equation. During Testing: To activate this tool, the student will click on the Equation Builder tool will appear.
Flag/Mark for Review (Bookmark)	 Before Testing: Students may be provided sticky flags. During Testing: Students may use sticky flags to flag or mark pages or items they wish to come back to as time allows. After Testing: All flags must be removed before sending the testing materials back to the testing vendor. Note: Flagging or marking items for review using a writing utensil should be done with caution for paper-based tests since any stray marks near or within the bubbles for an item could interfere with the student's intended response. 	This is the online tool used to electronically flag or mark a question for review at a later point if allowed by the test design. During Testing: To flag an item for review, the student will click on the icon.
General Administration Directions Clarified (by Test Administrator)	During Testing: The Test Administrator may clarify general administration directions only. No passages or test items may be clarified.	During Testing: The Test Administrator may clarify general administration directions only. No passages or test items may be clarified.
General Administration Directions Read Aloud and Repeated as Needed (by Test Administrator)	During Testing: The Test Administrator may read aloud the general administration directions only. Students may raise their hand and request that directions may be repeated.	During Testing: The Test Administrator may read aloud the general administration directions only. Students may raise their hand and request that directions be repeated.
General Masking Tool	Students are allowed to cover up (mask) content that may be distracting with blank paper, enabling them to more easily focus their attention on a specific part of the text. Before Testing: Students may be provided masking tools and supplies (e.g., blank pages).	This is the online tool used to electronically cover up (mask) content that may be distracting, enabling the student to focus their attention on a specific part of the screen more easily. During Testing: To activate this tool, the student will click on the OPTIONS icon on the bottom left corner of the testing window and select MASKING once a student begins the test.

 Table 1: Features for All

Feature	PBT Description	CBT Description
Headphones or Noise Buffers	Before Testing: The Test Administrator prepares the classroom with headphones for participating students.	Before Testing: Test Administrator prepares classroom with headphones for participating students.
	During Testing: Students use headphones or noise buffers to minimize distraction or filter external noise during testing.	During Testing: Students use headphones or noise buffers to minimize distraction or filter external noise during testing. If headphones are used only as noise buffers, they should not be plugged into the testing device.
Highlighter Tool	Before Testing: Students may be provided with a non-carbon-based yellow highlighter.	This is the online tool used to highlight a portion of an item, text, or a graphic. The highlighter tool can be used virtually anywhere within the item to highlight passage text, item text, answer options, portions of graphics and images, and text within images. During Testing: To activate the Highlighter tool, click on the i icon in the Tools Bar at the top of the testing window.
Line Guide	Before Testing: Students may be provided with line guide tools (e.g., rulers, straight edge).	The Line Guide is a movable, straightedge line within the online system that students may use to follow along with each line of text. During Testing: To activate the Line Guide , click on the icon in the Tools Bar at the top of the testing window. Once activated, click on the handle bar on the right side of the Guide and drag the Guide as needed. To deactivate the Line Guide, click again on the same icon.

Table 1: Features for All

Feature	PBT Description	CBT Description
Magnification/Variable Zoom	Before Testing: Students may be provided with magnification tools.	This is the online tool that allows students to enlarge the screen by 150% or 200%. The entire screen is magnified, including all text, graphics, and images. During Testing: Students can activate this tool by clicking on the site icon in the Tools Bar at the top of the testing window and selecting the magnifying strength they desire (i.e., 150% or 200%). Students can deactivate this tool by clicking again on the same icon.
Measurement tools: ruler protractor, and paddy paper	Before Testing: Students must be provided the appropriate ruler and protractor. Refer to the <u>Assessment Guides</u> for information on the type of ruler and protractor to be provided for each grade.	Students will be able to electronically access a ruler and protractor applicable to their testing grade. Refer to the <u>Assessment Guides</u> for information on the type of ruler and protractor available for each grade. During Testing: The Ruler can be accessed by clicking on the sicon in the Tools Bar at the top of the testing window. Once activated, it can be moved to the desired location on the screen and pivoted, and takes measurements in both inches and centimeters (standard and metric). The Protractor , also activated by clicking on the screen any object on the screen and rotated.
Redirect Student to the Test (by the Test Administrator)	During Testing: The Test Administrator may redirect a student's attention to the test without coaching or assisting the student in any way. There is no limit to the number of times an Administrator can redirect a student back to the test. Examples: Providing reminders to stay on task and focused during the assessment; Providing a visual cue to the student to remain on task.	During Testing: The Test Administrator may redirect a student's attention to the test without coaching or assisting the student in any way. There is no limit to the number of times an Administrator can redirect a student back to the test. Examples: Providing reminders to stay on task and focused during the assessment; Providing a visual cue to the student to remain on task.

 Table 1: Features for All

Feature	PBT Description	CBT Description
Specialized Furniture or Equipment	A student may be provided specialized furniture or equipment needed for a successful testing experience (e.g., low lighting; adaptive seating).	A student may be provided specialized furniture or equipment needed for a successful testing experience (e.g., low lighting; adaptive seating).
	Before Testing: Specialized furniture or equipment must be identified and secured before testing begins.	Before Testing: Specialized furniture or equipment must be identified and secured before testing begins.
Sticky Note (Notepad)	Students are allowed to use sticky notes to create and place a note on their consumable test booklet on which they can write a short message for later reference. Before Testing: Students may be provided sticky notes. After Testing: All sticky notes must be removed from the consumable test booklets before they are returned to the testing vendor as they may interfere with the scanning and scoring of the booklets.	This is the online tool that allows students to electronically create and place a note on the screen on which they can type a short message for later reference. Multiple notes can be created for each item or passage, and the notes can be moved around the screen, minimized or completely hidden, and re-opened. During Testing: Students can create a sticky note by clicking on the icon in the Tools Bar at the top of the testing window. For a passage or scenario containing multiple parts (e.g., one passage with several questions associated with it), the student can use the Sticky Note tool to take notes that are retained for all questions associated with that passage or scenario (i.e., a Global Note).
Strikethrough	Students are allowed to cross off or strikethrough answer options with highlighters or pencils during testing. Note: Stray marks near or on answer bubbles may interfere with the student's intended response. Be sure to instruct students that they are very careful to only cross out the text in the answer options and not the actual response bubbles, as this may interfere with their test score.	This online tool allows students to electronically cross out/eliminate answer options (distractors) believed to be incorrect. During Testing : To activate this tool, click on the or icon in the Tools Bar at the top of the testing window. Once activated, use this tool to eliminate answer options that you believe to be incorrect.

Table 1: Features for All

Feature	PBT Description	CBT Description
Writing/Formatting Tools (for Writing items only)	N/A	During Testing: The student can access the writing tools for written responses by clicking on the appropriate icons in the Tools Bar at the top of the testing window, including undo, redo, bold, italic, underline.

Table 1: Features for All

Accessibility Features

The following table describes the additional accessibility features available for all students with the particular need documented in their IEP, IAP, EL Accommodation Checklist, or PNP. The decision for these tools to be available for a particular student is to be made at least 30 days before the start of the state test administration window.

Feature	PBT Description	CBT Description
Individual Testing	 Before Testing: Testing locations and logistics must be secured in advance of testing. After Testing: <i>The Individual/Small Group Administration</i> must be bubbled in on the student's answer document. 	 Before Testing: The Individual or Small Group Administration accommodation must be activated within the student's Accommodations tab within eDIRECT for whichever content area(s) this accommodation applies. Testing groups must be identified, and testing locations and logistics must be secured before testing begins.
Small Group Testing	Students may be tested in a separate location with a small group (8 or fewer) of students with matching accessibility features, accommodations, or testing needs, as appropriate. Before Testing: Testing groups must be identified, and testing locations and logistics must be secured before testing begins. After Testing: The <i>Individual/Small Group</i> <i>Administration</i> must be bubbled on the students' answer documents.	Students may be tested in a separate location with a small group of students with matching accessibility features, accommodations, or testing needs, as appropriate. Before Testing: Testing groups must be identified, and testing locations and logistics must be secured before testing begins. <i>The Individual or Small</i> <i>Group Testing Administration</i> accommodation must be activated within the student's Accommodations tab within eDIRECT for whichever content area(s) this accommodation applies.
Student Reads Assessment Aloud to Themself	Before Testing: Testing locations and logistics must be secured in advance of testing. During Testing: The student reads aloud the assessment to themself. The student may use an external device such as a whisper phone, read to themselves in a normal voice, or use other strategies from classroom instruction. The student must be tested in a separate setting.	Before Testing: Testing locations and logistics must be secured in advance of testing. During Testing: The student reads aloud the assessment to themself. Students may use an external device such as a whisper phone, read to themself in a normal voice, or use other strategies from classroom instruction. The student must be tested in a separate setting.

Table 2: Accessibility Features

Feature	PBT Description	CBT Description
Adaptive and Specialized Equipment or Furniture	A student may be provided specialized furniture or equipment needed for a successful testing experience (e.g., low lighting; adaptive seating).	A student may be provided specialized furniture or equipment needed for a successful testing experience (e.g., low lighting; adaptive seating).
	Before Testing: Specialized furniture or equipment must be identified and secured before testing begins.	Before Testing: Specialized furniture or equipment must be identified and secured before testing begins.
Math Read Aloud (Text-to-Speech, Kurzweil, Recorded Voice, Human Reader)	 Before Testing: Testing locations and logistics must be secured in advance of testing. The DTC must order the Kurzweil or Recorded Voice DVD. After Testing: The Math Read Aloud accommodation and Kurzweil or Human Reader must be bubbled in on the student's answer document. 	 Before Testing: Testing locations and logistics must be secured in advance of testing. The <i>Math TTS</i> accommodation must be activated within the student's Accommodations tab within eDIRECT for whichever content area(s) this accommodation applies. During Testing: Audio will begin immediately when the student navigates next/back to each question. On-screen audio controls are provided, allowing the student to pause the audio, adjust the audio volume, turn on/off the follow- along feature, and indicate specific areas of the question they wish to replay.

Table 2: Accessibility Features

Accommodations

The following table describes the assessment accommodations available to those students who have an Individualized Education Program (IEP), Section 504 Individual Accommodation Plan (IAP), or English Learner (EL) Accommodation Checklist.

Feature	PBT Description	CBT Description
Braille Test Materials	A hardcopy Braille form is available for students with a visual impairment who are unable to take a standard print paper-based assessment. Materials: <i>Braille Kit</i>	A hardcopy Braille form is available for students with a visual impairment who cannot access the online assessment. Materials: <i>Braille Kit</i>
	Before Testing: A <i>Braille Kit</i> must be on- hand before testing begins.	Before Testing: A <i>Braille Kit</i> must be on- hand before testing begins.
	 During Testing: For students taking a hardcopy Braille form, the test administration instructions for filling in bubbles, making marks, and erasing marks do not apply. Student should be sure to number their responses to be sure their responses can be transcribed accurately into a standard consumable test booklet. After Testing: Student responses must be transcribed verbatim into a standard consumable test booklet, which is included in the <i>Braille Kit</i>. The <i>Transferred Answers</i> accommodation must be bubbled in the <i>Special Education Student Accommodation(s)</i> field on the student's consumable answer booklet. 	 During Testing: For students taking a hardcopy Braille form, the test administration instructions for completing the online form do not apply. Students should be sure to number their responses to ensure their responses can be transcribed accurately into the online form. After Testing: Student responses must be transcribed verbatim into the online form. The <i>Transferred Answers</i> accommodation must be selected in the <i>Special Education Student Accommodation(s)</i> field in eDIRECT.

Table 3: Accommodations

Feature	PBT Description	CBT Description
Calculation Device and Math Tools (for non- calculator sections of Mathematics Assessments)	Students who have a calculator accommodation may be provided a hand- held calculator during the non-calculator and calculator sessions of the test. Before Testing: Students must be provided a hand-held calculator. The Calculator Use accommodation must be bubbled in either the Special Education Student Accommodation(s) field or the Test Accommodation(s) for Students with Disabilities According to Section 504 field on the student's answer document.	 For all calculator sessions of the test, students will have access to the online calculator. Students may also be provided a hand-held calculator during the non-calculator sessions of the test. Before Testing: Students must be provided a hand-held calculator, if appropriate. The <i>Calculator</i> accommodation must be activated within the student's Accommodations tab within eDIRECT for the math content area.

Table 3: Accommodations

The purpose of the calculation device on the non-calculator sections accommodation is to provide access for students with a disability that *severely limits or prevents* their ability to perform basic calculations, including an inability to perform single-digit addition, subtraction, multiplication, or division).

For these students, a calculation device may be used on the non-calculator AND calculator sections of the mathematics assessments. The IEP or 504 plan must specify which device(s) or manipulatives. The specified calculator must be aligned with the calculator policies. Manipulatives may require state assessment office approval. Manipulatives may not subvert the construct of the assessment.

<u>Calculator policies</u> are located in the <u>Math Assessment Structure</u> section in the assessment library.

Allowable calculators for the calculator accommodation on non-calculator sections:

- Grades 3-5: Four-function with square root and percentage functions.
- Grades 6-7: Four-function with square root and percentage functions.
- Grade 8: Scientific calculators **must not** have graphing capabilities
- High School: Graphing calculators with functionalities consistent with TI-84 or similar models. (Student may also bring a scientific calculator or a four-function with square root and percentage functions).

Allowable mathematics tools include:

- Arithmetic tables (e.g., addition charts, subtraction charts, multiplication charts, division charts).
- Two-color chips (e.g., single-sided or double-sided)
- Counters and counting chips
- Square tiles
- Base 10 blocks
- 100s chart

Those tools are only allowable for students who have a disability that severely limits or prevents their ability to

perform basic calculations, including an inability to perform single-digit addition, subtraction, multiplication, or division. However, mathematics tools may not subvert the construct of the assessment.

A visual impairment student may need other mathematics tools, such as a large print ruler (embedded LEAP 2025 ruler is designed in 18-point font), braille ruler, tactile compass, or braille protractor.

Important Guidelines for identifying students to receive Calculation Device and Mathematics Tools accommodation:

IEP teams and 504 Plan Coordinators should carefully review the following guidelines before identifying students to receive this accommodation. If all guidelines are NOT met, and the student is given Calculation Device and Mathematics Tools without proper documentation, the student's assessment score may be invalidated, and the score would not be counted in the overall assessment results.

In making decisions whether to provide the student with this accommodation, IEP teams and 504 Plan Coordinators should consider whether the student has *a disability that severely limits or prevents the student's ability to perform basic calculations, such as single-digit addition, subtraction, multiplication, or division, even after varied and repeated attempts to teach the student to do so.*

Before listing the accommodation in the student's IEP/504 plan, teams should also consider whether:

- The student cannot perform calculations without using a calculation device, arithmetic table, or manipulative during routine instruction.
- The student's inability to perform mathematical calculations is documented in evaluation summaries from locally administered diagnostic assessments.
- The student receives ongoing, intensive instruction and/or interventions to learn to calculate without using a calculation device to ensure that they continue to learn basic calculation and fluency.

Feature	PBT Description	CBT Description
Transferred Answers	The student's answers are transferred to the scoreable test booklet after the student has completed the entire test.	The student's answers are transferred into the online platform after the student has completed the entire test.
	Before Testing: Testing locations and logistics must be secured in advance of testing.	Before Testing: Testing locations and logistics must be secured in advance of testing.
	During Testing: Student dictates responses either verbally, using an external speech-to-text device, an augmentative/assistive communication device (e.g., picture/word board), or by dictating, signing, gesturing, pointing, or eye-gazing.	During Testing: Student dictates responses either verbally, using an external speech-to- text device, an augmentative/assistive communication device (e.g., picture/word board), or by dictating, signing, gesturing, pointing, or eye-gazing.
	The student must be tested in a separate setting. The student must be familiar with any assistive technology external device used for test administration.	The student must be tested in a separate setting. The student must be familiar with any assistive technology external device used for test administration.
	After Testing: Responses must be transcribed exactly as dictated/signed (e.g., the human scribe/signer may not change, embellish, or interpret a student's responses when transcribing) into the student's standard test booklet or answer document. Only transcribed responses will be scored.	After Testing: Responses must be transcribed exactly as dictated/signed (e.g., the human scribe/signer may not change, embellish, or interpret a student's responses when transcribing) into the student's online test.
	Test Administrators are responsible for collecting all nonscorable student work created using assistive technology devices or handwritten work. Test-related content must be deleted from all devices. Nonscorable student work must be securely shredded.	Test Administrators are responsible for collecting all nonscorable student work created using assistive technology devices or handwritten work. Test-related content must be deleted from all devices. Nonscorable student work must be securely shredded.
	(See Appendix E)	

Table 3: Accommodations

Feature	PBT Description	CBT Description
Recorded Answers	The student's answers are recorded in the scoreable test booklet as the student is completing the entire test.	The student's answers are recorded into the online platform as the student is completing the entire test.
	Before Testing: Testing locations and logistics must be secured in advance of testing.	Before Testing: Testing locations and logistics must be secured in advance of testing.
	During Testing: Student dictates responses either verbally, using an external speech-to-text device, an augmentative/assistive communication device (e.g., picture/word board), or by dictating, signing, gesturing, pointing, or eye-gazing.	During Testing: Student dictates responses either verbally, using an external speech-to- text device, an augmentative/assistive communication device (e.g., picture/word board), or by dictating, signing, gesturing, pointing, or eye-gazing.
	The test administrator scribes or records verbatim what is said by the student	The test administrator scribes or records verbatim what is said by the student
	A student using a scribe must be given the same opportunity as other students to plan and draft a constructed response	A student using a scribe must be given the same opportunity as other students to plan and draft a constructed response
	The scribe must allow the student to review the scribed response in order to make edits. If requested by the student, the scribe may read the scribed response back to the student. The student may dictate changes or edits to the scribe, and the scribe must make those changes exactly as dictated by the student, even if a change is incorrect. All changes must be made during the test session.	The scribe must allow the student to review the scribed response in order to make edits. If requested by the student, the scribe may read the scribed response back to the student. The student may dictate changes or edits to the scribe, and the scribe must make those changes exactly as dictated by the student, even if a change is incorrect. All changes must be made during the test session.
	(See Appendix E)	

Table 3: Accommodations

Important Guidelines for identifying students to receive Transferred or Recorded Answers:

IEP teams and 504 Plan Coordinators should carefully review the following guidelines before identifying a student to receive this accommodation. If all guidelines are NOT met, and the student is given the accommodation on a LEAP 2025, the student's assessment score may be invalidated, and the score would not be counted in the overall assessment results.

In making decisions whether to provide the student with this accommodation, IEP teams and 504 Plan Coordinators should consider whether the student has:

- A physical disability that severely limits or prevents the student's motor process of writing through keyboarding; OR
- A disability that severely limits or prevents the student from expressing written language, even after varied and repeated attempts to teach the student to do so.

Before listing the accommodation in the student's IEP or 504 plan, teams/coordinators should also consider whether:

- The student's inability to express in writing is documented in evaluation summaries from locally- administered diagnostic assessments;
- The student routinely uses a scribe for written assignments; and
- The student receives ongoing, intensive instruction and/or interventions to learn written expression, as deemed appropriate by the IEP team or 504 Plan Coordinator.

Feature	PBT Description	CBT Description
Large Print Test Materials – Math Spanish	A hardcopy Large Print Math Spanish form is available for students with a visual impairment who are unable to take a standard print paper-based or online assessment. Materials: <i>Large Print Math Spanish Kit</i> Before Testing: A <i>Large Print Math Spanish Kit</i> must be ordered via the eDIRECT Additional Materials system and be on-hand before the start of testing. During Testing: Students will not record their responses in a standard print consumable test booklet. Instead, students will mark their responses in the Large Print form. After Testing: Student responses must be transcribed verbatim into a standard print consumable test booklet, which is included in the <i>Large Print Math Spanish Kit.</i> Only responses transcribed into a standard print consumable test booklet will be scored. The <i>Transferred Answers</i> accommodation must be bubbled in either the <i>Special Education Student TestAccommodation(s)</i> field or the <i>Test Accommodation(s) for Students with Disabilities According to Section 504</i> field on the student's consumable test booklet.	All online test content has been developed such that it scales in relation to the available area on larger monitors, which maintaining the correct aspect ratio. Additionally, students may utilize the magnification tools to increase text to 1.5 and 2.0 times the size. Before Testing: If required, the Test Coordinator or Administrator must arrange for and have on-hand the appropriate size monitor based on the student's needs prior to testing.

Table 3: Accommodations

Feature	PBT Description	CBT Description
Math Spanish Read Aloud (EL Only)	 A Math Spanish Kurzweil CD and a Spanish accommodated consumable test booklet are available for student testing with a paper-based test and require that their Spanish math test be read aloud. Materials: Math Spanish Read Aloud Kit, which includes a standard-print math Spanish consumable test booklet and a math Spanish Kurzweil CD. Before Testing: A Math Spanish Read Aloud Kit must be on-hand before testing begins. Proper administration devices and tools (e.g., CD player, 	The Text-to-Speech (TTS) function is available for students testing online who require that their test be read aloud. TTS allows students testing online to listen via headphones or speakers to test information displayed on the screen. Words and numbers, including test directions, questions, answer choices, and other information, will be read aloud and can be repeated as necessary. Before Testing: The <i>Spanish math test and</i> <i>Text-to-Speech</i> accommodation must be activated within the student's Accommodations tab in eDIRECT.
	headphones) must be arranged for and available before testing begins. The <i>Spanish Test and Human Read Aloud</i> accommodations must be bubbled in the Limited English Proficient field on the student's consumable test booklet.	During Testing: Audio will begin immediately when the student navigates next/back to each question. On-screen audio controls are provided, allowing the students to pause the audio, adjust the audio volume, turn on/off the follow-along feature, and indicate specific areas of the question they wish to replay.
Spanish Math Test (EL Only)	Materials: Math Spanish consumable test booklet.Before Testing: A Math Spanish consumable test booklet must be on-hand before testing begins.During Testing: The student will test using the Math Spanish consumable test booklet.Other language options may be provided by the test administrator as an oral translation and documented as a Unique Accommodation.	 Before Testing: The <i>Math Spanish</i> accommodation must be activated within the student's Accommodations tab in eDIRECT. During Testing: The student will be presented a Spanish version of the online math assessment. Other language options may be provided by the test administrator as an oral translation and documented as a Unique Accommodation.

Table 3: Accommodations

Feature	PBT Description	CBT Description
Test Read Aloud • Text-to-Speech • Kurzweil CD • Recorded Audio File Note: To receive the Read aloud accommodation for the ELA assessment (except English III), a student must meet the ELA Read Aloud Criteria (see Appendix C).	 A Kurzweil CD and Human Reader File are available for students testing with a paperbased test and require that their test be read aloud. Materials: <i>Read Aloud Kit</i>, which includes a standard print consumable test booklet, a Kurzweil CD, and a Human Reader File. Before Testing: A <i>Read Aloud Kit</i> must be on-hand before testing begins. Proper administration devices and tools (e.g., CD player, headphones) must be arranged for and on-hand before testing begins. After Testing: The <i>Tests Read Aloud</i> accommodation must be bubbled in either the <i>Special Education Student Accommodation(s)</i> field or the <i>Test Accommodation(s)</i> for <i>Students with Disabilities According to Section 504</i> field on the student's consumable test booklet. 	The Text-to-Speech (TTS) function is available for students testing online who require that their test be read aloud. TTS allows students testing online to listen via headphones or speakers to test information displayed on the screen. Words and numbers, including test directions, questions, answer choices, and other information, will be read aloud and can be repeated as necessary. Before Testing: The <i>Text-to-Speech</i> accommodation must be activated within the student's Accommodations tab in eDIRECT for whichever content area(s) this accommodation applies. During Testing: Audio will begin immediately when the student navigates next/back to each question. On-screen audio controls are provided, allowing the students to pause the audio, adjust the audio volume, turn on/off the follow along feature, and indicate specific areas of the question they wish to replay.

Table 3: Accommodations

Emergency Accommodations

Emergency accommodations for the classroom and on assessments may be appropriate for a student who incurs a temporary disabling condition that interferes with test performance shortly before or during the LEAP 2025 assessment window. A student who does not have an IEP or 504 plan may require accommodation due to a recently occurring accident or illness. Cases include students who have a recently fractured limb (e.g., arm, wrist, shoulder); whose only pair of eyeglasses has broken; or a student returning after a severe or prolonged illness or injury. An emergency accommodation should only be given if the accommodation will result in a valid score for the student (i.e., does not change the construct being measured by the test[s]). **The accommodations must not be for testing only.**

If the principal (or designee) determines that a student requires an emergency accommodation, an IAP form must be completed and maintained in the student's assessment file. Indicate on the top of the IAP form that the accommodation is temporary and includes start and ending dates. Consult with the district office for approval. If required, the temporary IAP Form may also be submitted to the District Test Coordinator to be retained in the student's central office file. Requests for emergency accommodations will be approved after determining that using the accommodation would result in a valid score for the student. The parent must be notified that an emergency accommodation will be provided in the classroom and on state assessments.

Appendix A

Procedures for Human Readers Providing the Human Reader Accommodation

- 1. Readers must be trained locally to administer each assessment.
- 2. Readers must read verbatim (word for word) only what is printed in the test booklet without changing, emphasizing, or adding words. Readers may not clarify (except for test directions), provide additional information, assist, or influence the student's selection of a response in any way.
- 3. Readers must speak in a clear and consistent voice throughout the test administration, using correct pronunciation and without vocal inflections that may provide clues to, or mislead, a student. Readers may be provided a copy of the test and the Test Administrator's directions two schools days before testing begins within a supervised, secure environment to become familiar with the words, terms, symbols, signs, and/or graphics that will be read aloud to the student.
- 4. Readers should emphasize only the words printed in boldface, italics, or capital letters and inform the student that the words are printed that way. No other emphasis or vocal inflection is permitted.
- 5. According to the student's needs, readers may repeat passages, test items, and response options as requested. Readers should not rush through the test and ask the student if they are ready to move to the next item.
- 6. Readers may not attempt to solve mathematics problems or determine the correct answer to a test item while reading, as this may result in pauses or changes in inflection which may mislead the student.
- 7. Readers must attempt to maintain a neutral facial expression, neither smiling nor frowning during the test, which the student may interpret as approval or disapproval of the student's answers.
- 8. Readers should know in advance which accommodations are required by the student and for which test (ELA, mathematics, science, and/or social studies) the student is designated to receive a human reader.
- 9. Readers must be aware of whether a student requires additional tools, devices, or adaptive equipment that has been approved for use during the test, such as a magnifier, closed-circuit television (CCTV), abacus, brailler, slate and stylus, etc.
- 10. If a reader is unsure how to pronounce an unfamiliar word, advise the student of the uncertainty and spell the word.
- 11. When reading a word that is pronounced like another word with a different spelling, the reader may spell the word after pronouncing it if there is any doubt about which word is intended.
- 12. Readers must spell any words requested by the student.
- 13. When reading passages, readers must be aware of punctuation marks. Readers may read the passage, or selected lines a second time, with all punctuation marks indicated.
- 14. When test items refer to a particular line, or lines, of a passage, reread the lines before reading the question and answer choices. For example, the reader should say, "Question X refers to the following lines...," then read the lines to the student, followed by question X and the response options.
- 15. When reading selected response items, readers must be careful to give each response option equal stress and read all of them before waiting for a response.

Appendix A

- 16. If a reader is also scribing the student's responses, or if another adult will scribe, and the student designates a response choice by letter only ("D," for example), the reader must ask the student if they would like the response to be reread before the answer is recorded in the test booklet.
- 17. If the student chooses an answer before the reader has read all the answer choices, the human reader must ask if the student wants the other response options to be read.
- 18. After the reader finishes reading a test item and all response options, the reader must allow the student to pause before responding. If the pause has been lengthy, say: "Do you want me to read the question or any part of it again?" When rereading questions, readers must avoid emphasis on words not bolded, italicized, or capitalized.
- 19. Refer to Appendix D for Mathematics Read Aloud Guidance.

Appendix B

Guidance for Selecting and Administering the Extended Time Accommodation

What is the Extended Time Accommodation?

Extended time is a provision that expands the allowable length of time to complete assignments, tests, and activities and may also change how the time is organized. For LEAP 20205, this accommodation provides additional time for a student to complete the summative assessments beyond the time allotted for the test. Students with disabilities and English learners may be eligible to receive the Extended Time Accommodation. The Extended Time Accommodation allows a student to have up to a single day to complete a single test session. Single test sessions may not extend beyond one school day.

Who can benefit from the Extended Time Accommodation?

The extended time accommodation is most beneficial for students who routinely need more time than is generally allowed to complete activities, assignments, and tests. Extra time may be needed:

- to process written text (e.g., for a student who processes information slowly or has a human reader)
- to write (e.g., for a student with limited dexterity)
- to use other accommodations or augmentative devices (e.g., assistive technology, audio materials, or a scribe)
- for a student who needs frequent breaks that may extend the time needed to complete testing.

Documenting the Extended Time Accommodation in a Student's Individualized Education Program (IEP), 504 Plan (IAP), or EL Accommodation Checklist

Extended time must be documented in a student's <u>IEP</u>, <u>IAP</u>, or <u>EL</u> Accommodation Checklist based on data or observations of the student's performance in past assessments. These decisions must be made on a case-by-case basis based on the student's needs and any other accommodations being provided for the assessment for which the extended time will be needed. Teams should consider whether the unit time provided will meet the student's needs prior to including a provision for extended time in student plans.

Planning and Logistics for Administering the Extended Time Accommodation

Students who require this accommodation must take the test in a setting separate from those testing with standard time to minimize disruptions. If other selected accommodations affect the standard administration of the test (e.g., extended time on a timed test, tests read aloud), individual or small group (8 or less) administration must be used.

Procedure for Ending the Extended Time Accommodation with Students

Students with extended time accommodations must be given a unit in a continuous block of time and may not be brought back to that unit at a later time. If the accommodation extends into the student's scheduled lunch, the test administrator must either accompany the student to lunch and remain with the student, or bring the student's lunch to the testing room.

Appendix C

ELA Read Aloud Guidelines

Accommodations, by definition, provide support for students with disabilities without compromising the integrity of the assessment. The purpose of the assessment, the standards measured, and method of measurement determine whether or not an accommodation can be used on the given assessment.

The statewide assessments are integrated—assessing Reading, Writing, and Language through a series of tasks or passage sets. Because the ELA Read Aloud accommodation applies to the entire ELA assessment, it must be used for only a small population of students—those who could not otherwise access the ELA assessment. Students with disabilities who are simply having difficulty reading text and/or are reading below grade level are not allowed the read aloud accommodation on the statewide ELA assessments.

Read Aloud on the ELA Assessment

- Includes Read Aloud of the entire ELA assessment
- Shall be noted on student performance reports
- Is available to students with IEP and IAP accommodations that meet the following criteria:
 - Blindness or a visual impairment and has not learned (or is unable to use) braille;
 - A disability that severely limits or prevents them from accessing printed text, even after varied and repeated attempts to teach the student to do so (e.g., the student is unable to decode printed text);
 - Deafness or hearing impairment and is severely limited or prevented from decoding text due to a documented history of early and prolonged language deprivation

ELA Read Aloud Example #1

Matthew is a 4th-grade student with a specific learning disability in reading and has received Read Aloud as an accommodation on state assessments as recorded on his IEP. The disability prevents Matthew from being able to engage in printed text; he cannot decode the words. He has been included in the RTI process at his local school and is receiving reading remediation daily. Matthew regularly receives Read Aloud as an accommodation in the classroom and utilizes audio files in place of much of the printed text.

In evaluating the evidence available, the school level team determines that because Matthew has a disability that severely impacts his ability to read and comprehend printed text as determined by reading assessments, has been involved in the school RTI process, is currently receiving reading remediation, **and has IEP goals related to reading development;** he is eligible for the Read Aloud accommodation on state assessments.

The school-level team records the appropriate accessibility features and accommodations, plans to determine the effectiveness of the supports through classroom assessment and observation, and makes appropriate changes if needed.

ELA Read Aloud Example #2

Sarah is a 7th-grade student with ADHD tendencies and has received Read Aloud as an accommodation on state assessments as recorded on her IAP for 3 years. She does not have a reading disability, but the IAP team has found that Read Aloud results in Sarah being less distracted by movement and noises in the classroom setting.

In evaluating the evidence available, the school level team determines that because Sarah does not have a reading disability and is not receiving reading remediation, she is not eligible for Read Aloud as an accommodation on state assessments. However, they also determine that she would benefit from other support, including using a noise buffer (earbuds or earplugs) and being redirected by the test administrator when distracted.

The school-level team records the appropriate accessibility and accommodations, plans to determine the effectiveness of the supports through classroom assessment and observation, and makes appropriate changes if needed.

Appendix D

Math Read Aloud Guidelines

Visuals

Guidelines for Test Read Aloud Descriptions

Use these guidelines to describe visuals for Test Read Aloud scripts:

Read the title.

Provide a general overview of the image. (i.e., A map of South America, a graphic organizer with a center circle and four circles radiating outward)

Begin with the main section of the image.

Describe the details in a succinct manner using grade-level appropriate vocabulary.

Omit minor details that are irrelevant (a box to the left of the person).

If facial expressions or body language are important, do not assume a blind student can interpret them. For example, it is better to describe a person as worried than to state they have furrowed brows.

When describing several people in an image, label each one clearly so they are not mixed up. (i.e., tall man, elderly man, little boy)

Describe only what is seen in the image, do not provide interpretation or additional information.

Classifications for Embed Coding Scheme for Text Descriptions

An embed code within the alt text will be included for all test items with visual elements. The embed code will be classified as a 1, 2, or 3. The description of each level is listed below:

[1] is not construct-relevant and can be eliminated (e.g., it is only there for engagement purposes). For example, a picture of an elephant added purely for engagement would have alt text that reads "elephant [1]" or "picture of elephant [1]."

[2] is construct-relevant and can be represented using accompanying textual description. Example of text where reading the graph is construct-relevant: The graph title is Roller Rink Costs. Key, dashed line represents Roller Rink A, solid line represents Roller Rink B. The x-axis is labeled number of people. The y-axis is labeled cost in dollars. The dashed arrow starts at zero people, sixty dollars, and points to a little less than sixteen people, midway between one hundred and one hundred ten dollars. The solid arrow starts at zero people, a little less than ten dollars, and points to a little more than fourteen people, a little less than one hundred ten dollars. [2]

[3] is construct-relevant and can be represented using accompanying textual description together with a tactile representation or physical manipulative. Example of text where reading the graph is construct-relevant: The graph title is Roller Rink costs. Key, dashed line represents Roller Rink A, solid line represents Roller Rink B. The x-axis is labeled number of people. The y-axis is labeled cost in dollars.

Accessibility experts will be trained on this embedded coding scheme during the item tagging phase of item development.

Symbols

Money (\$)

Example 1 \$4.35

Example 2 \$2.50

Example 3 \$5,390

Audio Guideline

Read dollars and cents if there is a decimal point.

Do not read shortcuts for numbers. For instance, \$.25 should be read as twenty-five cents instead of a quarter. This will allow a more standardized presentation of monetary quantities.

If the amount is less than one dollar, read "X cents" and do not read the zero (\$0.35 is "thirty-five cents," not "zero dollars and thirty-five cents").

Read the number place value unless the question is measuring place value (refer to the large number section for details).

Application of Audio Guideline

Example 1 Four dollars and thirty-five cents

Example 2 Two dollars and fifty cents

Example 3 Five thousand three hundred ninety dollars

Angles/Triangles (\angle and Δ)

Example 1 ∠RST

Example 2 ΔRST

Example 3 $\Delta R'S'T'$

Audio Guideline

Read angles and shapes by leading with "angle," "shape," etc. and then reading letters individually.

When reading a transformed or reflected angle or shape that uses " ' ", describe as "prime."

Do not reference the case of the letter unless an item includes uppercase and lowercase letters. In this instance, make reference to the uppercase letters guideline.

Application of Audio Guideline

Example 1 Angle RST

Example 2 Triangle RST

Example 3 Triangle R´S´T´

Ratios (:)

Example 3:2

Audio Guideline

Read as "the ratio x to y."

Sometimes the ratio symbol is used for fractions. This can usually be determined by context. If this is the case, refer to the fraction guideline.

If "the ratio of" is used in the item, read as "x to y" to avoid being redundant.

Application of Audio Guideline Example The ratio three to two

Equal Signs (=)

Example 2 + 3 = 5

Audio Guideline Read as "equals."

Application of Audio Guideline Example Two plus three equals five.

Pi (π)

Audio Guideline Read as "pi."

Approximately equal to (\approx)

Example $\pi \approx 3.14$

Audio Guideline Read as "is approximately equal to."

Application of Audio Guideline

Example Pi is approximately equal to three point one four.

Less than (<)

Example 1 3 < 5

Example 2 x < y < z

Audio Guideline

Read as "is less than."

If there is more than one "less than" sign in a string, then read the whole relationship together. Read the last part as "is less than."

Application of Audio Guideline

Example 1 Three is less than five.

Example 2 X is less than y is less than z.

Less than or equal to (\leq)

Example $2x \le 6$

Audio Guideline Read as "is less than or equal to."

Application of Audio Guideline

Two x is less than or equal to six.

Greater than (>)

Example 1 7 > 5

Example 2 x > y > z

Audio Guideline

Read as "is greater than."

If there is more than one "greater than" sign, read the whole relationship together. Start the last part as "is greater than."

Application of Audio Guideline

Example 1 Seven is greater than five.

Example 2 X is greater than y is greater than z.

Greater than or equal to (\geq)

Example $3x \ge 6$

Audio Guideline Read as "is greater than or equal to."

Application of Audio Guideline

Three x is greater than or equal to six.

Dashes (-)

Example 1 Pages 3–7

Audio Guideline

When the dash is used to reference material or as a group of conditions, use "through" for consecutive and non-consecutive numbers.

Application of Audio Guideline

Example 1 Pages three through seven

Temperatures (°F and °C)

Example 1 35°F

Example 2 25°C

Audio Guideline

Read as "degrees Fahrenheit" and "degrees Celsius."

Application of Audio Guideline

Example 1 Thirty-five degrees Fahrenheit

Example 2 Twenty-five degrees Celsius

Parallels $(\overline{RS} \parallel \overline{XY})$

Audio Guideline Read as "is parallel to."

Application of Audio Guideline

Line segment RS is parallel to line segment XY.

Perpendiculars (\bot)

Example $\overline{EF} \perp \overline{GH}$

Audio Guideline Read as "is perpendicular to."

Application of Audio Guideline

Line segment EF is perpendicular to line segment GH.

Abbreviations (ft., km)

Example 1 3ft.

Example 2 What is the correct abbreviation for kilometer? A: kl B: K C: km D: klm

Audio Guideline

Present abbreviations by speaking the whole word the abbreviation represents.

If the item measures the ability to identify the abbreviation's meaning, then read the abbreviation letter by letter.

If speaking the abbreviation violates the construct being measured, then read letter by letter.

If the item has measurements that are all uppercase or lowercase, then it is not necessary to reference the cases.

Application of Audio Guideline

Example 1 Three feet

Example 2 What is the correct abbreviation for kilometer?

A. Kl

B. K

C. Km

D. klm

Measurement (", ', and cm²)

Example 1 6"

Example 2 12'

Example 3 4cm²

Example 4 5cm³

Audio Guideline

Present measurements by speaking the whole word the symbol represents.

Application of Audio Guideline

Example 1 Six inches

Example 2 Twelve feet

Example 3 Four square centimeters

Example 4 Five cubic centimeters

Number Signs (#)

Example Refer to step #5.

Audio Guideline

Read as "number."

Rule refers only to when a symbol is being used to signify "number" instead of other non-mathematical uses of the symbol (for example, the pound key and the hash key).

Application of Audio Guideline

Example Refer to step number five.

Empty/Unknown Boxes (□)

Example 1 $4 + 2x = \square$

Example 2 3 + y = ??

Audio Guideline

Refer to an empty box in a formula or equation as "blank."

Refer to a box with a question mark in it as "question mark."

Application of Audio Guideline

Example 1 Four plus two x equals blank.

Example 2 Three plus y equals question mark.

Not equal to (\neq)

Example $2x \neq 7$

Audio Guideline Read as "is not equal to."

Application of Audio Guideline Two x is not equal to seven.

Arc (^)

Example \widehat{RT}

Audio Guideline Read as "arc."

Application of Audio Guideline Arc RT

Infinity (∞)

Example As $x \to \infty$, $f(x) \to -\infty$

Audio Guideline Read as "infinity."

Application of Audio Guideline

Example As x approaches infinity, f of x approaches negative infinity.

Appendix D

Percent (%)

Example 35%

Audio Guideline

Read as "percent."

Application of Audio Guideline

Thirty-five percent

Lines: Line Segment, Line, and Ray $(\overrightarrow{FG}, \overrightarrow{JK}, \overrightarrow{LM})$

Example 1: Line Segment \overline{FG}

Example 2: Line \overrightarrow{JK}

Example 3: Ray \overrightarrow{LM}

Audio Guideline

Read as "line segment," "line," or "ray" when they appear above letters or numbers.

Application of Audio Guideline Example 1 Line segment FG

Example 2 line JK

Example 3 ray LM

Similar to (~)

Example ΔEFG ~ ΔJKL

Audio Guideline Read as "is similar to."

Application of Audio Guideline Example Triangle EFG is similar to triangle JKL.

Therefore (:.)

Example A=B and $B=C \therefore A=C$

Audio Guideline Read as "therefore."

Application of Audio Guideline Example A equals B, and B equals C; therefore, A equals C.

Congruent (\cong)

Example

 $\angle FGH \cong \angle JKL$

Audio Guideline Read as "is congruent to."

Application of Audio Guideline Example Angle FGH is congruent to angle JKL.

Factorial (!)

Example 5! = x

Audio Guideline Read as "factorial."

Application of Audio Guideline Example Five factorial equals x.

Plus or Minus (±)

Example The margin of error is $4.5 \pm .8$

Audio Guideline Read as "plus or minus."

Application of Audio Guideline Example The margin of error is four point five plus or minus point eight.

Subscript (A)

Example A represents the maximum amount of interest.

Audio Guideline Read as "x subscript y."

Application of Audio Guideline A subscript *i* represents the maximum amount of interest.

Numbers

Negative/Positive Numbers

Example 1 --4

Example 2 4 - -5

Example 3 What is the distance between +4 and -3 on the number line?

Audio Guideline

Read as "negative." Do not read the negative sign as a minus sign.

In most cases, consecutive negatives that are intended to show the negative of a negative will be represented with a set of parentheses. If this is the case, then refer to the parentheses section.

If the negative of a negative does not include parentheses, read as "negative (pause) negative."

Two consecutive negatives should not be read as "negative negative X" if the operation is focused on subtraction. In this case, read as "minus negative X."

If a positive sign precedes a number and is not part of an operation, then read as "positive." Negative/ Positive Numbers

Application of Audio Guideline

Example 1 Negative four

Example 2 Four minus negative five

Example 3 What is the distance between positive four and negative three on the number line?

Large Whole Numbers

Example 1 103,457

Example 2 Item 2

Virginia covers one hundred two thousand, five hundred fifty-eight square kilometers of land. Which shows this number?

A. 1,258
B. 12,558
C. 102,558
D. 1200,558

Audio Guidelines

For items not measuring place value, read large numbers by referencing all of the number place

values. If the item measures place value knowledge, read the number digit by digit using commas.

If reading the number as a whole number violates the construct being measured, read the number digit by digit.

Application of Audio Guideline

Example 1 One hundred three thousand, four hundred fifty-seven *Note:* Use this application unless cueing occurs; then use the application in Example 2.

Example 2

A: one comma two five eight

B: one two comma five five eight

C: one zero two comma five five eight

D: one comma two zero zero comma five five eight

Fractions/Improper Fractions

Example 1

 $\frac{1}{2} + \frac{3}{8}$

Example 2 $\frac{3}{14} + \frac{15}{100} - \frac{x}{2y}$

Example 3

 $\frac{3x+y}{z}$

Example 4

 $\frac{6}{3}$

3

Example 5

 $\frac{3x}{5+x^2}$

Audio Guidelines

Read common fractions by presenting the numerator as the number it represents and the denominator as the ordinal number using two words for the whole presentation. Pause between stating numerator and denominator.

Read any fraction with a numerator of _____(pause) and denominator of ______.

If the denominator is between 2 and 10, then read it is as one-third, one-fourth, one-fifth, one-sixth, one-seventh, one-eighth, one-ninth, or one-tenth.

An exception to the first guideline is 1/2, which should always be read as one-half.

An exception to the first guideline is 1 in the denominator. For example, 3/1 should be read as numerator of 3 (pause) and denominator of 1.

When a fraction is complex (e.g., has more than one number in the numerator/denominator, includes an arithmetic operation, or involves parentheses/exponents), denote the numerator and denominator using the language "fraction with numerator...and denominator...."

When an operation follows a fraction, pause between the fraction and the next operation.

Application of Audio Guidelines

Example 1 One-half plus three-eighths

Example 2

Fraction with numerator of 3 (pause) and denominator of 14 plus the fraction with numerator of fifteen and denominator of one hundred minus fraction with numerator of x and denominator of two y

Example 3 Fraction with numerator three X plus Y and denominator of Z

Example 4 Six-thirds

Example 5 Fraction with numerator of three x and denominator of 5 (pause) plus x squared

Mixed Numbers

Example 1

 $4\frac{3}{4}$

Example 2

 $5\frac{13}{28}$

Audio Guidelines

Read with "and" between the whole number and the fraction. Pause between stating numerator and denominator

Use fraction audio guidelines for reading fraction portion of mixed numbers.

Application of Audio Guidelines

Example 1 Four and three fourths

Example 2 Five and numerator of thirteen (pause) denominator of 28

Decimal Points

Example 1 40.6500

Example 2 0.100000

Example 3 0.000000002

Example 4 0.333...

Example 5 3,450.0844397

Audio Guidelines

If there are up to six repeating zeroes or numbers before or after the decimal point, read them as "zero and three repeating."

If there are more than six repeating zeroes or numbers after the decimal point (beyond millionths), say "point" and read the digits in order from left to right.

Read "repeating" where "..." represents the number of group of numbers that repeats.

Application of Audio Guidelines

Example 1 Forty point six five zero zero Example 2 Zero point one zero zero zero zero zero

Example 3 Zero point zero zero (pause) zero zero zero (pause) zero zero zero two

Example 4 Zero point three repeating

Example 5 Three thousand four hundred fifty point zero eight four (pause) four three nine seven

Roman Numerals

Example 1 Find the point in quadrant II that is furthest from the origin.

Example 2 V. Three students walked to school taking different routes.

Example 3 What is the numeric value of Roman Numeral VII?

Audio Guidelines

If an item uses Roman numerals but does not measure knowledge of Roman numerals, read the Roman numeral reference and then the number.

If the item measures knowledge of Roman numeral value, read "Roman numeral" followed by the letters one at a time.

Application of Audio Guidelines

Example 1 Find the point in quadrant two that is furthest from the origin.

Example 2 Question five. Three students walked to school taking different routes.

Example 3 What is the numeric value

What is the numeric value of Roman Numeral V I I?

Time

Example 1 6:30

Example 2 9 a.m.

Example 3 5:45

Audio Guidelines

Read the time literally without using shortcuts or reading the time in reference to a different version of time (e.g., noon, quarter of six, ten after five).

Read a.m. and p.m. without adding language about the time of day (e.g., "in the morning" or "at night.")

Application of Audio Guidelines

Example 1 Six thirty

Example 2 Nine a m

Example 3 Five forty-five

Date

Example 1 1976

Example 2 Feb. 5, 2003

Audio Guidelines

Read years as they would be read in plain language usage.

Read months as the full name even if abbreviations are presented in the text.

Read days as you would when reading a date instead of reading the day as a number (e.g., "second" instead of "two," "third" instead of "three," or "fourth" instead of "four").

Application of Audio Guidelines

Example 1 Nineteen seventy-six

Example 2 February fifth, two thousand three

Ordered Pairs

Example 1 Point A is (-2, 4)

Example 2 Point B is (3, -5)

Audio Guideline

Read coordinate pairs as "ordered pair X, Y."

Application of Audio Guideline

Example 1 Point A is the ordered pair negative two, four.

Example 2 Point B is the ordered pair three, negative five.

Probability

Example $P(\text{orange}) = \frac{1}{6}$

Audio Guideline

"P(text)" is the notation for probability. When reading a probability, do not read parentheses as "parenthesis." Read as "P of" word in parentheses "is" remaining text.

Application of Audio Guideline

Example P of orange is one-sixth

Expressions/Equations/Operations

Multiplication

Example 1 $3 \ge 5 = X$

Example 2 xy + 4x = 10

Example 3 (3+x)(y-2)

Audio Guidelines

Read the multiplication symbol as "times" when it appears in a math item.

If there are two variables or a variable and a number consecutively, do not read "times" to represent implied multiplication.

Application of Audio Guidelines

Example 1 Three times five equals X.

Example 2 xy plus four x equals ten.

Example 3 Parenthesis three plus x, parenthesis, (pause) parenthesis y minus two, parenthesis.

Addition

Example 4+2+ 3

Audio Guideline Read as "plus."

Application of Audio Guideline Four plus two plus three

Appendix D

Subtraction

Example

5 - 3

Audio Guideline

Read as "minus."

Application of Audio Guideline

Five minus three

Division

Example 1 $12 \div 4$

Example 2 What is 57 ÷ 5? A: 10 R7 B: 11 R2 C: 12

Example 3 118 ÷ 6 =? What is the correct quotient and remainder? A: 4 R 19 B: 2 R 19 C: 19 R 2 D. 19 R 4

Audio Guideline

Read as "divided by."

If the item presents the remainder as "R," read as "remainder" unless the item is measuring the meaning of "R." In this case, read it as "R."

Application of Audio Guideline

Example 1 Twelve divided by four

Example 2 What is fifty-seven divided by five? A: ten, remainder seven B: eleven, remainder two C: twelve

Example 3

One hundred eighteen divided by six equals question mark. What is the correct quotient and remainder? A: 4 "R" 19 B: 2 "R" 19

C: 19 "R" 2

D: 19 "R" 4

Parentheses

Example 1 3(x + y) = 6

Example 2 2(x + 3) + $\frac{(y-2)}{3} = 9$

Example 3 (x + 4)[(x + 4) - (x - 2)]

Audio Guideline

Read the opening and closing parentheses by using the language "parenthesis."

When reading an equation or expression with multiple parts and sets of parentheses, pause to help differentiate between sections.

Read brackets using the same language as parentheses in the first guideline.

Application of Audio Guideline

Example 1 Three parenthesis x plus y parenthesis equals six.

Example 2

Two parenthesis x plus three parenthesis (pause) plus (pause) the fraction with numerator parenthesis y minus two parenthesis and denominator three (pause) equals nine.

Example 3

Parenthesis x plus four parenthesis, (pause) bracket, parenthesis, x plus four parenthesis minus parenthesis x minus two parenthesis, (pause) bracket.

Mathematical Exponents $(x^2, x^3, 4^5)$

Example 1 $y = x^2$

Example 2 $y = 4^5 + 2$

Example 3 $y = 2^{x+5} + 3$ Example 4 $16_2^3 = 8^2$

Audio Guidelines

Read the base first-the base can be either a numeral or a variable.

If the exponent has a value of 2, then read "squared." If the exponent has a value of 3, read "cubed;" otherwise, read "raised to the xth power."

To indicate a return to the base, use a pause.

Read all negative exponents as "y raised to the negative xth power."

Read fraction exponents following the fractions rule.

Application of Audio Guidelines

Example 1 Y equals x squared.

Example 2 Y equals four raised to the fifth power (pause) plus two.

Example 3 Y equals two raised to the *x* plus five power (pause) plus three.

Example 4 Sixteen raised to the three halves power equals eight squared.

Variables/Letters

Example 1 x + y = 3

Example 2 In the triangle, what is the measurement of angle *A* that is opposite side *a*?

Example 3 N + 4

Example 4 $-x^3$

Audio Guideline

Read lowercase variables in a math item without referring to case.

If uppercase variables are used in a math item along with lowercase variables, then specify both cases using the language "lowercase" and "uppercase."

If an uppercase variable appears in a math item without a lowercase variable, do not specify uppercase.

Appendix D

If a negative sign precedes a variable, read as the "opposite of" the variable rather than the "negative" of "the variable.

Application of Audio Guideline

Example 1 X plus y equals three.

Example 2 In the triangle below, what is the measurement of angle uppercase A that is opposite side lowercase a?

Example 3 N plus four

Example 4 Opposite of x cubed

Logs

Example 1 Log 10 100 = 2

Example 2 If log 2 \approx 0.301 and log 3 \approx 0.477, what is the approximate value of log 72?

A. 0.051
B. 0.778
C. 0.861
D. 1.857

Example 3 In x

Audio Guidelines

Read "log" followed by the base, the word "of," and then the number or variable.

If the log is shown without an explicit base, then read as "log" and the number or variable shown. Do not interpret the implied base of 10 if it is not written.

Read "In x" as "natural log of x."

Application of Audio Guidelines

Example 1 Log base ten of one hundred equals two.

Example 2

If log two is approximately equal to zero point three zero one and log three is approximately equal to zero point four seven seven, what is the approximate value of log seventy-two?

Example 3 Natural log of x

Radicals

Example 1 $\sqrt{2}$

Example 2 $\sqrt[4]{144} - \sqrt[x]{288}$

Example 3 $\sqrt[m]{x+y}$

Audio Guidelines

For radicals with an implied radical index of two, read as "the square root of

x." For radicals with a radical index of three, read as "the cube root of *x*."

For radicals with a number for a radical index other than two or three, start by reading the index as "the xth root of."

If the radical index is a variable, read as "the *x* root of *y*."

When multiplying numbers by radicals (e.g., $x\sqrt{y}$), say "*x* times the square root of *y*."

Application of Audio Guidelines

Example 1 The square root of two

Example 2 The fourth root of one hundred forty-four equals the *x* root of two hundred eighty-eight.

Example 3 The *m* root of quantity *x* plus *y*

Absolute Values

Example 1 |-16|

Example 2 |2 + 7|

Example 3 $|\mathbf{x}| + 1$

Audio Guidelines

Read as "the absolute value of."

Pause if an absolute value is part of a larger expression or equation.

Read the absolute value of an expression as "the absolute value of the quantity n plus 5.

Application of Audio Guidelines

Example 1 The absolute value of negative sixteen

Example 2 The absolute value of the quantity two plus seven

Example 3 The absolute value of *x* (pause) plus one.

Functions [f(x)]

Example 1 f(x) = 5

Example 2 f(x+1)

Example 3 f(g(x))

Example 4 $f^{-1}(x) = -2/3x - 2$

Audio Guidelines

For function notation in general, read the first letter shown, then the word "of," followed by the variable and/or number in parentheses.

When the expression inside the parentheses is more complex or includes another function, use the same rule of reading the letter first, then the word "of," followed by the variable or expression in parentheses.

When the inverse of a function is presented, read it as "f inverse of *x*."

Application of Audio Guidelines

Example 1 F of *x* equals five

Example 2 F of parenthesis *x* plus one parenthesis

Example 3 F of g of x

Example 4 The inverse of f of *x* equals negative two-thirds x minus two.

For function tables where one column/row is paired with one row/column:

The table should be read as it is organized, as (x, y) pairs, according to p. 44 (If the orientation of the table lends itself to reading the table information column by column and this is a more logical manner to present the table, then do so.)

Example

This table shows a relationship between *x* and *y*:

X	у
3	14
7	30
9	38

"The table has two columns and three rows. The first column heading is x; the second column heading is y. First row, 3, 14; second row, 7, 30; third row, 9, 38."

Example This table shows a relationship between *x* and *y*:

X	3	7	9
Y	14	30	38

"The table has two rows and three columns. The first row heading is x; the second row heading is y. The first column, 3, 14; second column, 7, 30; third column, 9, 38."

System of Equations/Inequalities

Example 1

What is the solution to the system of equations?

 $\begin{cases} x + y = 4 \\ x - y = 2 \end{cases}$

Example 2

Which point lies in the solution set for the system

 $f(x) = \begin{cases} 2y - x \ge -6\\ 2y - 3x < -6 \end{cases}$ A. (-4, -1) B. (3,1) C. (0, -3) D. (4,3)

Audio Guidelines

Start by reading "system of equations" or "system of inequalities." Then read the information in the system starting from the top to the bottom; reference the row position and insert a pause between rows. Read equations and inequalities according to equation and inequality guidelines above.

Application of Audio Guidelines

Example 1

What is the solution to the system of equations? Top row, *x* plus *y* equals four (pause) bottom row, *x* minus *y* equals two.

Example 2

Which point lies in the solution set for the system of inequalities, top row, two y minus x is greater than or equal to negative six (pause) bottom row, two y minus three x is less than negative six.

Trigonometry

Example 1 sin15°=cos75°

Example 2 $\tan \theta = -1$

Audio Guidelines

Read the abbreviated versions of trigonometry functions in full words if doing so does not violate the construct being measured. Sin is read as "sine." Cos is read as "cosine." Tan is read as "tangent." Sin⁻¹ is read as "inverse sine." Cos⁻¹ is read "inverse cosine." Tan⁻¹ is read "inverse tangent."

If the item is measuring knowledge of these abbreviations, read letter by letter.

Use the Greek alphabet in reading trigonometric functions and items. The most commonly used letters are theta (θ) , alpha (α) , and beta (β) .

Application of Audio Guidelines

Example 1 Sine fifteen degrees equals cosine seventy-five degrees

Example 2 Tangent theta equals negative 1

Tables/Graphs

Audio Guidelines

Text Only Read the table title only. Allow for all content elements in the table to be read on demand.

Text and Graphics

Read the table title, and then state the number of rows and columns. Then read the column headings from left to right, followed by reading the information in each row from left to right.

Application of Audio Guidelines

Example 1

Seashell Collection

Size	Number of Seashells
Small	3
Medium	6
Large	4

The table title is Seashell Collection. The table has two columns and three rows. The first column heading is Size, the second column heading is Number of Seashells; first row, Small, three seashells); second row, Medium, six seashells; third row, Large, four seashells.

If the table's orientation lends itself to reading table information column by column and this is a more logical manner to present the table, then do so.

Read the units of measure for each cell unless they are not specified in the table.

When reading a data table with blank cells, skip over them if they are unnecessary to answer the question. Blank cells should be read if this information is essential to answer the item.

Example 2

Rock Types

	Shiny	Air Holes	Flat Layers	Fossils
Metamorphic	Х		Х	Х
Igneous	Х	Х		
Sedimentary			Х	Х

The table title is Rock Types. The table has four columns and three rows. The first column heading is Shiny, the second column heading is Air Holes, the third column heading is Flat Layers, and the fourth column heading is Fossils; first row, Metamorphic, Shiny, Flat Layers, Fossils; second row, igneous, Shiny, and Air Holes; third row, Sedimentary, Flat Layers, and Fossils.

Remain consistent with the style of reading from table to table. Using a standardized version will help students better understand the patterns of the descriptions.

Many charts that are set up in a table format can be read in the manner described. Determine the layout of such charts before deciding the best way to read the information being presented.

Tally Charts

Audio Guideline

Text Only

Read the tally chart title only. Allow for all content elements in the chart except for the tally marks to be read on demand.

Text and Graphics

Read the tally chart title, column headings, and row headings.

Read the number of tally marks only if it does not violate the construct being measured. If reading tally marks does violate the construct being measured, tactile representation is required to make this item accessible to blind students and some low-vision students.

Example

Application of Text and Graphics Guidelines Example

Name	Number of Votes
Tigers	HH I
Rockets	.01
Sharks	HH 11
Bobcats	1111

The tally chart has two columns and four rows. The first column heading is Name, and the second column heading is Number of Votes; first row, Tigers, six votes; second row, Rockets, three votes; third row, Sharks, seven votes; and fourth row, Bobcats, four votes.

Bar Graphs

Audio Guideline

Text Only

Read the bar graph title. Allow for all words and numbers on the bar graph to be available to be read on demand.

Text and Graphics

Read the bar graph title first, followed by the x-axis label and the y-axis label.

Describe each bar, being careful to take into account the question so as not to violate the construct being measured. In each description, use the units of measure on the x- and y-axis labels if applicable.

If a bar is between two horizontal lines, then do not estimate or approximate numbers. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

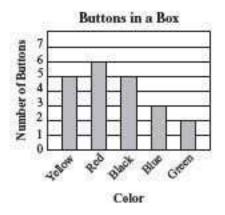
If the items measure the student's ability to identify the number associated with the bar, then describe the graph without noting the heights of the bars. In this case, tactile representation is required to make this item accessible to blind students and some low-vision students.

How many red buttons are in the box? Example 3

Kate asked the students in her class what their favorite fruit was. The results of her survey are shown in the graph below.

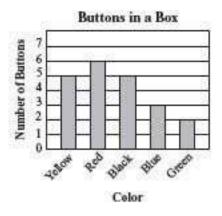
Application of Text and Graphics Guidelines

Example 1



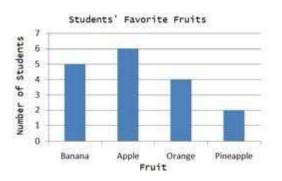
The bar graph title is Buttons in a Box. The x-axis label is Color, and the y-axis label is Number of Buttons; Yellow bar, five buttons; Red bar, six buttons; Black bar, five buttons; Blue bar, three buttons; and Green bar, two buttons.





Example 2 (item specifically asks students to identify associated with a bar) The bar graph title is Buttons in a Box. The x-label is Color and shows five colors: Yellow, Red, Black, Blue, and Green. The y-axis label is Number of Buttons.

Example 3



The bar graph title is Students' Favorite Fruits. The x-axis label is Fruit, and the y-axis label is Page 68 Number of students. Four bars are shown, from left to right, banana, apple, orange, pineapple.

Three functions plotted on a graph

If this graph is described with a tool like that above used to select different graphs on the same coordinate grid, it should be read as follows:

First row, F of X; second row, G of X; third row, H of X.

Note: If only two types of graphs can be selected with the tool, it may be appropriate to read according to instructions beginning on page 43 for systems of equations (top row...bottom row...)

Histograms

Audio Guideline

Text Only

Read the histogram title. Allow for all words and numbers on the histogram to be available to be read on demand.

Text and Graphics

Read the histogram title first, followed by the x-axis label and the y-axis label.

Describe each bar range on the x-axis, being careful to take into account the question so as not to violate the construct being measured. In each description, use the units of measure on the x- and y-axis labels if applicable.

If a bar is between two horizontal lines, then do not estimate or approximate numbers. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

If the item measures the student's ability to identify the number associated with the bar, then describe the graph without noting the heights of the bars. In this case, this item is not accessible to blind and some low-vision students without tactile representation.

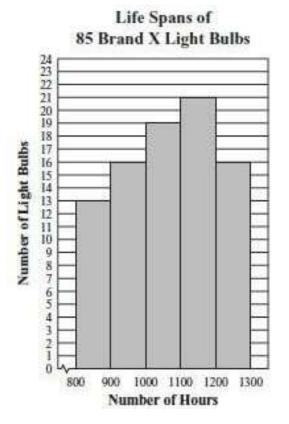
If there are a large number of bars (more than 10), consider associating bars together or focusing on trends or more general frequency in your description.

Application of Text and Graphics Guidelines

Example 1

Abe tested 85 Brand X light bulbs to determine their life spans. The histogram below shows the results of his test.

Appendix D



What was the total number of Brand X light bulbs that had life spans greater than or equal to 1000 hours?

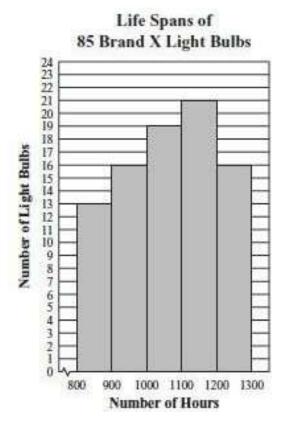
- A. 72
- B. 56
- C. 51
- D. 21

Example 1

The histogram title is Life Spans of Eighty-Five Brand X Light Bulbs. The x-axis label is Number of Hours, and the y-axis label is Number of Light Bulbs; bar one, eight hundred through eight hundred ninety-nine hours, thirteen light bulbs; bar two, nine hundred through nine hundred ninety-nine hours, sixteen light bulbs; bar three, one thousand through one thousand ninety-nine hours, nineteen light bulbs; bar four, one thousand one hundred through one thousand one hundred ninety-nine hours, twenty-one light bulbs; bar five, one thousand two hundred through one thousand two hundred ninety-nine hours, sixteen light bulbs.

Example 2

Abe tested 85 Brand X light bulbs to determine their life spans. The histogram below shows the results of his test.



How many Brand X lights had a life span that ranged from one thousand and one thousand ninety-nine?

- A. 13
- B. 16
- C. 19
- D. 21

(This item specifically asks the student to read information from one of the bars)

The histogram title is Life Spans of Eighty-Five Brand X Light Bulbs. The x-axis label is Number of Hours, and the y-axis label is Number of Light Bulbs. Five bars show the number of light bulbs with a life span of eight hundred through eight hundred ninety-nine hours, nine hundred through nine hundred ninety-nine hours, one thousand through one thousand ninety-nine hours, one thousand one hundred ninety-nine hours, one thousand through one thousand two hundred through one thousand two hundred ninety-nine hours.

Line Graphs

Audio Guidelines

Text Only

Read the graph title only. Allow for all words and numbers in the graph area to be available to be read on demand.

Text and Graphics For all graphs, read the title first.

Read the Key title and then the key section (refer to Key rule specifically). Read the axis labels.

When describing the graph, be as concise as possible while providing the necessary information to understand and answer the question.

If a line or point being described falls between two marked x- or y-axis values, then do not estimate or approximate numbers. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

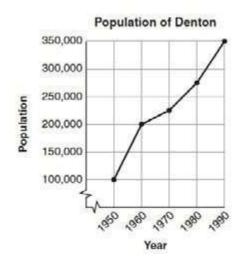
It is not necessary to describe the graph's visual attributes unless there is an explicit need, such as a key that references line types or an item referencing the attributes or if doing so would help the student to read a tactile or a magnified version of the test.

If the description violates the construct being measured, then consider amending it to give less specific information. In this case, tactile representation is required to make this item accessible to blind students and some low-vision students.

When possible, reference the starting and ending point of the line segments or starting points of rays to provide context to the student.

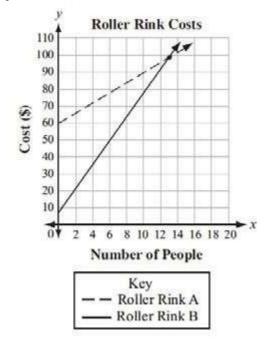
Application of Text and Graphics Guidelines

Example 1



The graph title is Population of Denton. The x-axis label is Year, and the y-axis label is Population. The line starts at nineteen fifty, one hundred thousand, rises to nineteen sixty, two hundred thousand, then nineteen seventy, midway between two hundred and two hundred fifteen thousand, then nineteen eighty, midway between two hundred fifty and three hundred thousand, and ends at nineteen ninety, three hundred fifty thousand.

Example 2



The graph title is Roller Rink Costs. Key, dashed line represents Roller Rink A, solid line represents Roller Rink B. The x-axis is labeled Number of People. The y-axis is labeled Cost (in dollars). The dashed line starts at zero people, sixty dollars, and moves up through midway between twelve and fourteen people, one hundred dollars and fourteen people, a little more than one hundred dollars. The solid line starts at zero people, a little less than ten dollars, and moves up between twelve and fourteen people, one hundred dollars and fourteen people, a little less than ten dollars.

Box Plots

Audio Guidelines

Read the box plot title. Allow for all words and numbers on the box plot to be available to be read on demand.

Text and Graphics

Start by reading the title of the plot and reference that it is a box plot. Read the box titles or any other words on the plot if applicable.

Read the information along the bottom of the graph from left to right.

If the item measures knowledge of the box plot or if the description violates the construct being measured, then describe the box plot without using specific terminology (e.g., whiskers, quartiles, or median). In this case, tactile representation is required to make this item accessible to blind students and some low-vision students.

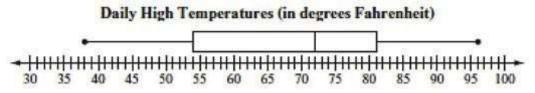
If a line or point being described falls between two marked values, then do not estimate or approximate number. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

If c is not applicable, then describe the graph elements using specific box plot terminology, including whiskers, quartiles, box, and median.

Application of Text and Graphics Guidelines

Example 1

The box plot shows the distribution of the daily high temperatures, in degrees Fahrenheit, in the town of Clifton during the year 2004.



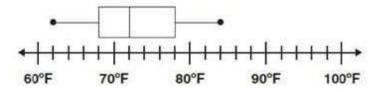
Based on the box plot, in which of the intervals of temperatures is it most likely that exactly 50% of the daily high temperatures are located?

The title of the box plot is Daily High Temperatures (in degrees Fahrenheit). The number line ranges from thirty to one hundred degrees Fahrenheit. The whiskers range from thirty-eight degrees to ninety-six degrees, and the box ranges from fifty-four to eighty-one degrees with a median of seventy-two degrees.

Example 2

The box plot represents the daily high temperatures at a beach in April



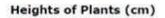


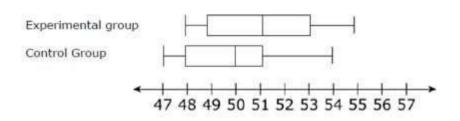
What was the median daily high temperature?

Example 2

The title of the box plot is Daily High Temperatures. From left to right, the number line shows sixty degrees Fahrenheit to one hundred degrees Fahrenheit with markers every ten degrees. The whiskers range from sixty-two degrees to eighty-four degrees, and the box ranges from sixty-eight degrees to seventy-eight degrees, with an interior vertical line segment at seventy-two degrees.

Example 3





The title of the box plot is Heights of Plants (centimeters). The number line ranges from 47 to 57, with

markers for every whole number. For the experimental group, the whiskers range from 48 centimeters to 55 centimeters, and the box ranges from 49 centimeters to 53 centimeters with a median of 51 centimeters. For the control group, the whiskers range from 47 centimeters to 54 centimeters, and the box ranges from 48 centimeters to 51 centimeters with a median of 50 centimeters.

Scatter Plots

Audio Guidelines

Text Only

Read the title of the scatter plot. Allow for all words and numbers on the scatter plot to be available to be read on demand.

Text and Graphics

For scatter plots, start by reading the title and x-axis and y-axis labels. Include the x- and y-axes ranges if necessary to access the item.

For a scatter plot with fewer than ten data points, reference each data point. Include units of measure while describing data points only if deemed relevant.

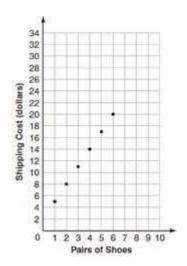
If a line or point being described falls between two marked x- or y-axes values, do not estimate or approximate numbers. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

If a scatter plot has more than ten data points, then focus on the change of concentration. When possible, read at least a couple of data points (first and last preferably) to put the plot into context.

For some items with scatter plots, tactile representation is required to make the item accessible to blind students and some low-vision students.

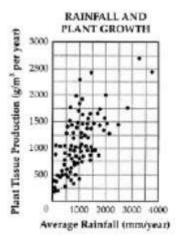
Application of Text and Graphics Guidelines

Example 1



The scatter plot shows Pairs of Shoes on the x-axis ranging from zero to ten in increments of one and Shipping Cost (dollars) on the y-axis ranging from zero to thirty-four in increments of two. The scatter plot has points at one, midway between four and six; two, eight; three, midway between ten and eleven, four, fourteen; five, midway between sixteen and eighteen; and six, twenty.

Example 2



The graph is a scatter plot titled Rainfall and Plant Growth. The x-axis is labeled Average Rainfall and ranges from zero to four thousand, in units of millimeters per year, in increments of one thousand. The y-axis is labeled Plan Tissue Production in units of grams per meter squared per year, ranging from zero to three thousand, in increments of five hundred. The graph has approximately eighty-five points scattered in a pattern beginning in the lower-left corner where Plant Tissue Production and Average Rainfall are the lowest. The pattern extends toward the upper-right corner, where Plant Tissue Production and Average Rainfall are the highest. The majority of points is concentrated in the lower-left corner and diminishes in concentration as the pattern extends toward the upper-right corner.

Coordinate Grids

Audio Guidelines

Text Only

Start by reading the title of the coordinate grid. Allow for all words and numbers on the coordinate grid to be available to be read on demand.

Text and Graphics

Read the title of the coordinate grid first.

Read the range of each axis.

Read the points or words on the grid in a logical manner (clockwise, following the listing of a shape, etc.), referencing their location on the grid.

If a line or point being described falls between two marked *x*- or *y*-axes values, then do not estimate or approximate numbers. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

If reading the points' location violates the construct being measured, do not read the point but reference that they are on the grid. In this case, tactile representation is required to make the item accessible to blind students and some low-vision students.

If there is a shape on the grid, then read the type of shape or name of it first, and then reference the axis points of all sides, if relevant. If referencing the axis points violates the construct being measured, then Page 76

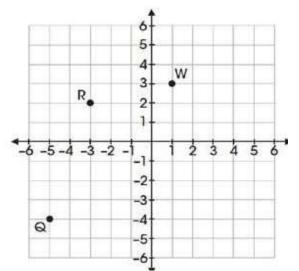
describe the shape without these points.

If an empty grid is presented in an item as part of the prompt, question, or answer, then read the title and the *x*- and *y*-axes scale.

Application of Text and Graphic Guidelines

Example 1

Points Q, R, and W are plotted on the coordinate grid.



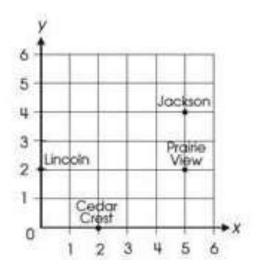
Where should point Z be plotted, so that parallelogram QRWZ is formed?

- A. (-2, -6)
- B. (-1, -3)
- C. (3, -2)
- D. (2, -1)

A coordinate grid with *x*- and *y*-axes ranging from negative six to six; point Q, negative five, negative four; point R, negative three, two; and point W, one, three.

Example 2

Mr. Yang is driving to the school located at (2, 0) on the coordinate grid.



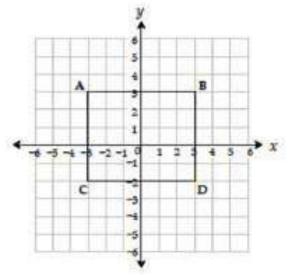
Which school is located at (2,0)? A. Cedar Crest

- B. Jackson
- C. Lincoln
- D. Prairie View

A coordinate grid with *x*- and *y*-axes ranging from zero to six. The grid shows the location of the four schools: Jackson, Prairie View, Cedar Crest, and Lincoln.

Example 3

Use the following diagram to answer the question below.



Which ordered pair identifies the location of vertex C?

- A. (-3, -2)
- B. (3, 3)
- C. (3, -2)
- D. (-2, -3)

A coordinate grid with *x*- and *y*-axes ranging from negative six to six. Rectangle ABCD is shown on the grid.

Exponential/Linear Function Graphs

Audio Guidelines

Text Only

Start by reading the title of the graph. Allow for all words and numbers on the graph to be available to be read on demand.

Text and Graphics Read the title of the graph first.

Read the range of each axis and any words or symbols that are on the graph.

Describe the shape of the graph. Use relevant points, including starting and ending points or x or y intersection points, to aid the description.

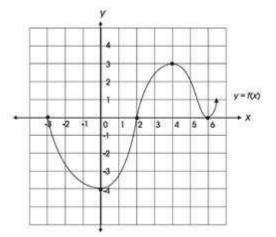
If a line or point being described falls between two marked x- or y-axes values, then do not estimate or approximate numbers. Instead, use more general language such as "a little less than," "a little more than," and "midway between."

If reading the location of any points violates the construct being measured, then do not read these points. If describing the shape or direction of the graph violates the construct, then do not read the details of the graph's shape. In this case, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Text and Graphics Guidelines

Example 1

The graph of the function f(x) is shown below.



Which of the following is NOT a zero of f(x)?

- A. -4
- B. -3
- C. 2
- D. 6

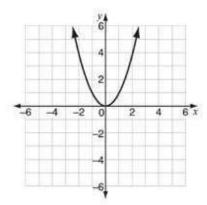
Example 1

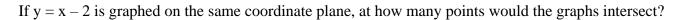
A graph showing the function y equals f of x. The x-axis ranges from negative three to six, and the y-axis ranges from negative four to four. The graph is in the shape of a wave. The graph starts at negative three zero, goes through zero negative four, then two zero, then four three, then six zero, and ends with an arrow signaling up.

Appendix D

Example 2

Look at this graph of $y = x^2$.





A. 0 B. 1

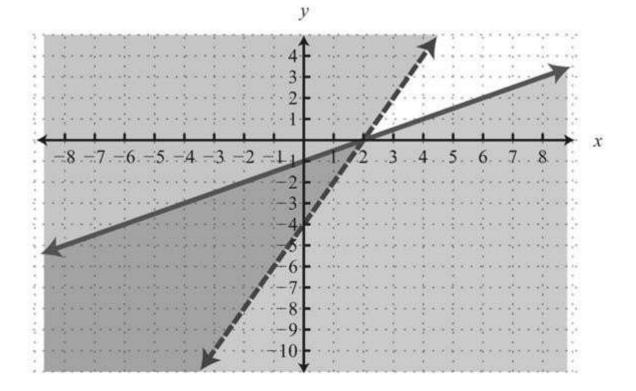
C. 2

D. 3

A graph showing y equals x squared. The x- and y-axes ranges from negative six to six. The graph is a parabola that starts with an arrow at midway between negative two and three six, and then the line moves down through zero zero and ends with an arrow at midway between two and three six.

System of Inequalities

Example Which graph represents the solution to this system of inequalities? y > 2x - 4 $3x - 6y \ge 6$



Application of Audio Guidelines

Text and Graphics

Which graph represents the solution to this system of inequalities, top row, Y is greater than 2 X minus 4; bottom row, 3 X minus 6 Y is greater than or equal to 6. A. A graph showing two lines and shaded regions. The x-axis ranges from negative 9 to 9. The y axis ranges from negative 11 to 5. The purple line is solid and starts at negative 9, a little less than negative 5; rises to zero, negative 1; then 2, zero; and ends at 9, a little more than 3. The area below the solid line is shaded purple. The blue line is dashed and starts at a little less than negative 3, negative 11; rises to zero, negative 4; then 2, zero; and ends at a little more than 4, 5. The area to the left of the dashed line is shaded blue. The area in between the solid purple line and the dashed blue line is shaded light gray.

Diagrams/Figures/Keys

Tree Diagram

Audio Guidelines

Text Only Read the tree diagram title. Allow for all words and numbers on the tree diagram to be available to be read on demand.

Text and Graphics

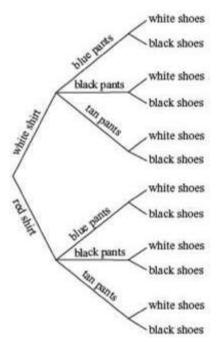
Read the tree diagram title and brief description along with stating the direction of the tree diagram.

Start with the innermost parts of the tree and describe the different limbs in an order that is easy to follow.

Describe all of the elements of the tree diagram with standardized language.

Example 1

The tree diagram below shows all of the outfits Jay can choose to wear today. An outfit has one color of shirt, one color of pants, and one color of shoes.



What is the total number of possible outfits with a white shirt?

A. 9

- B. 6
- C. 3
- D. 1

Application of Text and Graphics Guidelines

A tree diagram shows outfit combinations of shirts, pants, and shoes. The diagram displays information from left to right, starting with shirts on the leftward branches. On the top half of the tree, white shirt branches to blue pants, black pants, and tan pants. Each of these pants branches stem to the outermost branches of white shoes and black shoes. On the bottom half of the tree, red shirt branches to blue pants, black pants, and tan pants branches stem to the outermost branches of white shoes and black shoes.

Keys

Audio Guidelines

Text Only

Read the word Key after reading the graph/diagram title. Allow for all words and numbers in the key to be available to be read on demand.

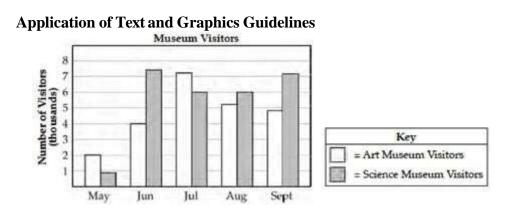
Text and Graphics Guidelines

Read the graph/diagram title and then the key.

Describe the key in detail, including shapes, shades, and so on. Use "represents" to associate the icon with text. (e.g., -10 miles. Dashed line represents ten miles.)

Read the graph/diagram using the key symbols. (e.g., May, white bar, two; May, gray bar, a little less than one)

Example



The bar graph title is Museum Visitors. In the Key, the white bar represents Art Museum Visitors, while the gray bar represents Science Museum Visitors. The x-axis shows five months; the y-axis is labeled Number of Visitors (thousands); the May white bar, two; the May gray bar, a little less than one; the June white bar, four; the June gray bar, midway between seven and eight; the July white bar, a little more than seven; the July gray bar, six; the August white bar, a little more than five; the August gray bar, six; the September white bar, a little less than five; and the September gray bar, a little more than seven.

Line Plots

Audio Guideline

Text Only

Read the line plot title. Allow for all words and numbers on the line plot and on the key to be available to be read on demand.

Text and Graphics

Read the title of the line plot, the key, and then the x-axis title (refer to this as the number line plot title if the term "axes" has not been taught in the grade being assessed).

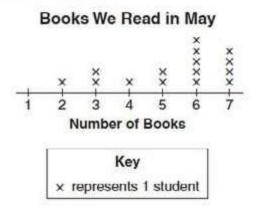
Use the key symbol to describe the line plot instead of interpreting the symbol.

If there are no x's or symbols above a number, then read this as zero instead of skipping it.

Be careful not to violate the construct being measured. Read the range of numbers on the x-axis without reading the data, if necessary. In this case, tactile representation is required to make the item accessible to blind students and some low-vision students.

Example

Look at this line plot.



Application of Text and Graphics Guidelines

Example

The title of the line plot is Books We Read in May. The key shows that an x represents one student. The number line title is Number of Books and ranges from one to seven in increments of one; at line plot one, zero x's are shown; at line plot two, one x is shown; at line plot three, two x's are shown; at line plot four, one x is shown; at line plot five, two x's are shown; at line plot six, five x's are shown; and at line plot seven, four x's are shown.

Shaded Figures (Grids, Bars, and Shapes)

Audio Guidelines

Text Only

Read the title of the shaded figure. Allow for all words and numbers in the figure to be available to be read on demand.

Text and Graphics

Read the title if there is one, and then describe the dimensions of the figure first. If possible, read the dimensions of the figure (ten by ten) instead of just the number of boxes.

Explain how many boxes are shaded, but do not use the terminology "x of y" boxes are shaded. This creates the fraction for the student and will often violate the construct being measured.

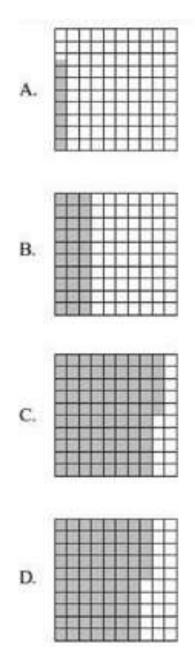
Do not state the total number of boxes shaded when information can be provided that students should use to determine the number of boxes shaded. (e.g., seven columns of ten boxes shaded, instead of seventy boxes)

Example

A fraction of the fish shown below is shaded gray.

DRDRDRD

Which grid is shaded gray to represent a fraction with the same value?



Application of Text and Graphics Guidelines

Example

A fraction of the fish shown below is shaded gray. The graphic shows four fish. Three of them are shaded gray.

Which grid below is shaded gray to represent a fraction with the same value?

A: ten by ten box grid with seven boxes shaded

B: ten by ten box grid with three columns of ten boxes shaded

C: ten by ten box grid with eight columns of ten boxes shaded and five additional boxes shaded

D: ten by ten box grid with seven columns of ten boxes shaded and five additional boxes shaded

Pictographs

Audio Guidelines

Text Only

Read the title of the pictograph. Allow for all words and numbers in the pictograph or key to be available to be read on demand.

Text and Graphics

Start by reading the title of the pictograph and then the key.

If the pictograph is in a table format, then refer to the table guidelines.

If the pictograph is in a graph format, then refer to the graph guidelines.

Reference the picture being used in general terms without describing it in detail. Use the key to read the pictograph without interpreting it. When the pictograph, reference "picture of x," since the scale may not be one to one.

In some cases, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Text and Graphics Guidelines

Example

Type of Dog	Number of Dogs
Beagle	tata
Collie	2222
Poodle	- Th
Dalmatian	22222

Dogo at the Dark

04	Key
Tra	represents 1 dog

The pictograph title is Dogs at the Park. The Key shows a picture of a dog represents one dog. The table has two columns and four rows; column heading one is Type of Dog; column heading two is Number of Dogs; row one, Beagle, picture of two dogs; row two, Collie, picture of three dogs; row three, Poodle, picture of one dog; and row four, Dalmatian, picture of four dogs.

Figures/Illustrations

Audio Guidelines

Text Only

Read the title of the figure/illustration or any caption being used in the title format. Allow for all words and numbers in the pictograph or key to be available to be read on demand.

Text and Graphics

Read the title of the figure or illustration. Include the caption in the description if it is not included in the surrounding text.

Read any scale before describing parts of the figure.

Separate the information into pieces using sentences, bullet points, or lists.

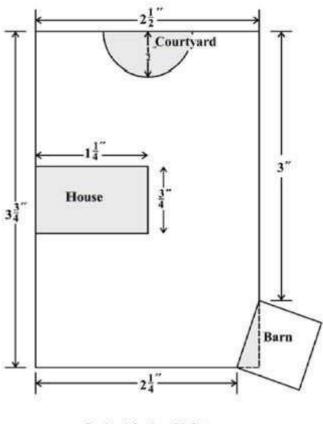
Use similar language to describe all parts of the diagram or illustration. Standardized language will help ensure comprehension.

Remember that the goal is to help the student understand the pertinent information in the diagram. Try to include descriptions of all shapes and figures, but try not to overload the student with descriptions that are overly wordy or not needed to answer the question.

In some cases, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Text and Graphics Guideline

Example 1



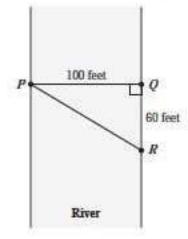
Scale: 1 inch = 20 feet

Use the scale to find the actual dimensions, in feet, of the house. Show or explain how you found your answer.

A drawing showing a rectangular plot of land is illustrated. The scale shows that one inch equals twenty feet. The left and right sides of the plot are three and three-fourths inches, and the top and bottom sides of the plot are two and a half inches. The rectangular house has side lengths of one and one-fourth inches and three-fourths of an inch. The barn is a square, mostly outside the plot, with a shaded right triangle inside the plot. The hypotenuse of the right triangle and the side of the square inside the plot are the same line segment. One corner of the triangle is at the two and one-fourth inch line at the bottom of the plot, and another corner is at the three-inch line on the side of the plot. The courtyard is a semicircle with a radius of one-half inch.

Example 2

Triangle PQR in the diagram below represents Pam's trip across a river.



In the diagram, \overline{PQ} represents her planned trip across the river, and \overline{PR} represents her actual trip across the river.

Based on the dimensions in the diagram, which of the following is closest to the length of \overline{PR} ?

- A. 104 feet
- B. 117 feet
- C. 120 feet
- D. 160 feet

A diagram showing a rectangular section of a river is illustrated. Triangle PQR shows Pam's trip across the river, with all three points of the triangle touching a side of the river. Point P is on the left side of the river, and points Q and R are on the right side of the river. Point Q is the vertex of a right angle. The distance from P to Q is one hundred feet. The distance from Q to R is sixty feet.

Number Lines

Audio Guidelines

Text Only

Read the title of the number line only or any caption used in the title format. Allow all letters, words, and numbers on the number line to be available on demand.

Text and Graphics

Start by reading the title of the number line.

Read the range on the bottom along with the increments displayed.

Read the letters or words on the number line along with their location. Be careful not to violate the construct being measured in doing so. In some cases, tactile representation is required to make the item accessible to blind students and some low-vision students.

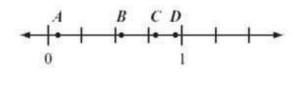
If a line or point being described falls between two marked values, then do not estimate or approximate numbers. Instead, use more general language such as "is located a little after," "is located a little before," "is closer to," and "is midway between."

For bolded number lines, describe which parts are bolded.

Application of Text and Graphics Guidelines

Example 1

Which point on the number line below best represents 0.8?



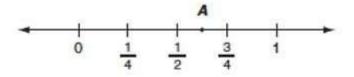
A. point A B. point B C. point C

D. point D

A number line is shown with points A, B, C, and D and three equally spaced tick marks between zero and one. Point A is located between zero and the first tick mark and is closer to zero; point B is located between the second and third tick marks and is much closer to the second tick mark; while point C and point D are closer to the value one.

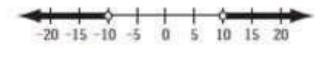
Example 2

Look at this number line.



Point A is halfway between $\frac{1}{2}$ and $\frac{3}{4}$. What fraction does point A represent? Show your work or explain how you know.

A number line shows zero and one with three tick marks between one-fourth, one-half, and three-fourths. Point A is marked midway between one-half and three-fourths. Example 3 The graph below is the solution of which of the following inequalities?



A. |x| > 10

- B. |x| < 10
- C. x > 10
- D. x < -10

A number line shows from negative twenty to positive twenty in increments of five. The areas from negative twenty to negative ten and positive ten to positive twenty are bolded with open circles at negative ten and positive ten. There are bolded arrows to the left of negative twenty and the right of positive twenty.

Spinners

Audio Guidelines

Text Only

Read the title of the spinner only. Allow for all letters, words, and numbers on the spinner to be available on demand.

Text and Graphics

Read the title of the spinner and reference it as a spinner.

Read any words, symbols, or numbers in the spinner, starting at the top and moving clockwise.

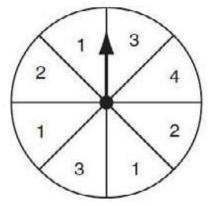
If necessary, describe the sizes of each section. Be sure not to violate the construct being measured in doing so. In some cases, tactile representation is required to make the item accessible to blind students and some low-vision students.

When describing the size of sections, do not estimate or approximate specific size if it is not labeled. Instead, use more general language such as "less than," "more than," and "half of." Exceptions are for one-fourth, one-third, one-half, two-thirds, and three-fourths that are immediately apparent.

Application of Text and Graphics Guidelines

Example 1

Look at this spinner.



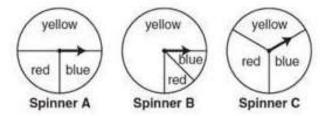
On what number is the arrow least likely to land?

- A. 1
- B. 2
- C. 3
- D. 4

Grades 7 and lower: A spinner is divided into eight sections of the same size, with one number in each section is shown. From the top moving clockwise, the sections read three, four, two, one, three, one, two, and one.

Grades 8 and higher: A spinner divided into eight congruent sections with one number in each section is shown. From the top moving clockwise, the sections read three, four, two, one, three, one, two, and one.

Example 2 Look at these spinners.



Julie, Greg, and Lori each used a different spinner to record the results of 40 spins.

a. This table shows Julie's results.

Julie's Spinner Results

Color	Frequency
yellow	12
blue	14
red	14

Which spinner did Julie **most likely** use? Show your work or explain how you know.

b. This table shows Greg's results.

Greg's Spinner Results

Color	Frequency
yellow	30
blue	5
red	5

Which spinner did Julie **most likely** use? Show your work or explain how you know.

c. Lori used the remaining spinner. Make a table to show the **most likely** results of Lori's 40 spins. Explain your reasoning.

There are three spinners labeled Spinner A, Spinner B, and Spinner C. Each spinner is divided into three sections. In Spinner A, one-half of the spinner is labeled yellow, one-fourth of the spinner is labeled blue, and one-fourth of the spinner is labeled red. In Spinner B, three-fourths of the spinner is labeled yellow, and the other part is divided evenly and labeled blue and red. In Spinner C, about one-third of the spinner is labeled yellow, about one-third of the spinner is labeled red, and about one-third of the spinner is labeled blue.

Coins and Dollars

Audio Guidelines

Text and Graphics Describe the money using standard language (penny, dime, quarter, or dollar).

Be sure to read each currency symbol as a symbol, not to interpret the value. (e.g., two quarters instead of fifty cents, or three dimes instead of thirty cents).

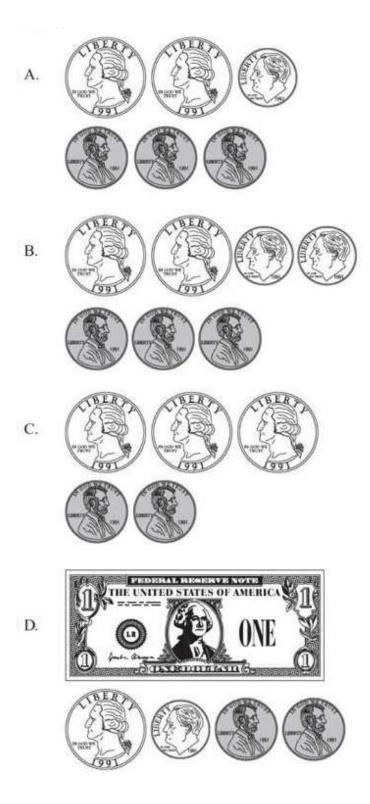
If reading the currency symbols violates the construct being measured, tactile representation is required to make the item accessible to blind students and some low-vision students.

Appendix D

Example

Cindy had \$1.00. then she bought a pencil for \$0.37. How much money does she have now?

Page 95



Application of Audio Guidelines

Example

A shows two quarters, one dime, and three pennies. B shows two quarters, two dimes, and three pennies. C shows three quarters and two pennies. D shows one dollar bill, one quarter, one dime, and two pennies.

Numbered/Step Diagrams

Audio Guideline

Text Only

Read the title of the diagram only. Allow for all letters, words, and numbers on the diagram to be available to be read on demand.

Text and Graphics

Read the title of the diagram and a brief orientation of what the diagram shows.

In logical order (left to right or top to bottom), read the steps or diagram numbers along with a description of the figures in each step.

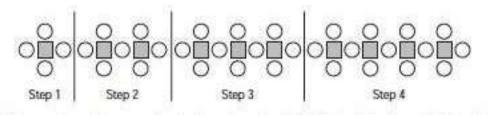
Describe the figures with enough detail to understand the item. Unless necessary, do not detail the specific characteristics of the figures being used (e.g., color, size, location, shape, etc.).

If the description violates the construct being measured (e.g., if the question asked "How many circles are in step 1?"), then adjust the description to be vague. In this case, tactile representation is required to make the item accessible to blind students and some low-vision students.

Application of Audio Guidelines

Example

Don made a pattern using circles and squares. The first four steps of his pattern are shown below.



If Don continues his pattern, what is the total number of circles he will need to make Step 10?

- A. 30
- B. 31
- C. 38
- D. 40

A diagram shows four steps of a pattern using circles and squares. Step one shows a square and four circles, step two shows two squares and seven circles, step three shows three squares and ten circles, and step four shows four squares and thirteen circles.

Geometric Figures

Audio Guidelines

Text Only

Read the title of the shape(s) only. Allow for all labels of sides or angles to be available on demand.

Text and Graphics

Simple shapes (any 2D shape with eight sides or fewer): Reference simple shapes as is, unless the item is measuring identification of a shape. If the item contains a simple shape, reference it without description. If there are unique attributes to the shape, describe what type of shape it is in as few words as possible. Be sure to reference labels of sides, angles, and so on.

3D shapes/figures: Reference the type of figure. If relevant and does not violate the construct being measured, describe the figure, including the number of sides. In some cases, if a certain description would violate the construct, tactile representation is required to make the item accessible to blind students and some low-vision students.

Be sure to reference labels of sides, angles, and so on.

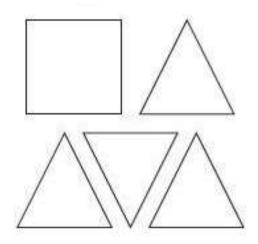
Refer to the coordinate grid section for reading shapes on coordinate grids.

Application of Text and Graphics Guidelines

Example 1

A square and four equally sized triangles are shown.

These shapes are the 5 faces of a three-dimensional figure.



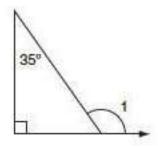
What is the three-dimensional figure?

- A. cube
- B. cone
- C. prism
- D. pyramid

A square and four equally sized triangles are shown.

Example 2

Look at this diagram.



What is the measure of $\angle 1$?

A. 55°

B. 115°

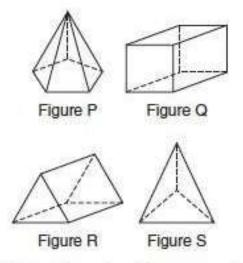
C. 125°

D. 135°

A diagram shows a right triangle. The triangle shows a right angle in the left corner, a thirty-five-degree angle at the top, with no angle reference in the bottom-right corner. Outside the bottom-right corner of the triangle, there is a symbol for angle one, which arcs from the unknown angle in the triangle to touch the ray

Example 3

Look at these figures.



Which two figures have the same number of faces?

- A. Figure P and Figure Q
- B. Figure S and Figure R
- C. Figure P and Figure R
- D. Figure S and Figure Q

Example 3

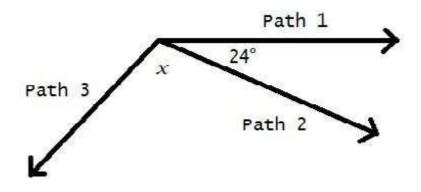
Four figures are shown. Figure P is a pentagonal pyramid, Figure Q is a rectangular prism, Figure R is a triangular prism, and Figure S is a triangular pyramid.

For geometric figures with multiple lines

Diagrams with internal angles should generally be described clockwise, beginning at the 12:00 position or a logical point of origin in the diagram.

Example

Bicyclists at National Park can choose one of three bike paths from the visitors' center, as shown in this diagram.



A diagram shows three rays, each originating at the same point. The first ray, drawn horizontally to the right, is labeled Path 1. The second ray, labeled Path 2, is drawn downward and toward the right. The angle that includes Path 1 and Path 2 is labeled 24 degrees. The third ray, labeled Path 3, is drawn downward and to the left. The angle that includes Path 2 and Path 3 is labeled as \mathbf{x} .

Appendix E

Protocol for Recorded Answers Accommodation and Transcribing Student Responses

Scribing a student's responses by an adult Test Administrator is a response accommodation that allows students to provide test responses to an adult Test Administrator who writes or types the responses directly onto the assessment for the student. Students receiving the scribe accommodation may respond to assessment items either:

- verbally,
- using a speech-to-text device or other augmentative/assistive communication device (e.g., picture/word_board),
- signing (e.g., American Sign Language, signed English, Cued Speech),
- gesturing,
- pointing, or
- eye-gazing

Note: Scribing may include "dragging and dropping" selected response items, as appropriate.

The Recorded Answers Accommodation is appropriate for students with a physical disability that severely limits or prevents the student's motor process of writing, typing, or recording responses during testing. This includes students with reduced ability to record responses due to pain, fracture, paralysis, loss of function, or loss of endurance, as well as students whose handwriting is indecipherable or illegible. Scribes are also an appropriate accommodation for students who have a documented disability in the area of written expression, which results in significant interference in their ability to express their knowledge in writing/keyboarding, even after varied and repeated attempts to teach the student to do so.

If a student requires a scribe due to a recently-occurring, though temporary, illness or injury, an IAP should be completed; write the word "Temporary" on the top of the form. Be sure to include the beginning and end dates.

If a student requires a scribe due to an ongoing inability to express their responses through writing/ keyboarding, this should be documented in evaluation summaries from locally administered diagnostic assessments and must be listed in the student's IEP, IAP, or EL Accommodation Checklist. The student should be receiving ongoing, intensive instruction and/or interventions to learn written expression, as deemed appropriate by the IEP team, 504 Coordinator, or EL Coordinator.

Qualifications of the Scribe

Individuals who provide the scribe accommodation to a student must:

- be trained by the school or district, as indicated in the LEAP 2025 Test Administrator Manuals;
- sign a LEAP 2025 Security Agreement Form; and
- be fluent in receptive and expressive American Sign Language (ASL), signed English, or other sign systems, for students who are deaf or hard of hearing.

Preferably, the scribe will already be familiar with and have experience scribing for the student. If the scribe is unfamiliar with the student, then the scribe and student should have the opportunity to practice the scribing process together prior to taking the assessment.

Administering the Scribe Accommodation

- A scribe may administer the scribe accommodation only to one student at a time during a test session. The student must be tested in a separate setting.
- The scribe must write legibly, if transcribing a student's response into a test book.
- The scribe must transcribe responses verbatim from the student and may not prompt or question the student or correct a student's responses. The scribe may ask the student to restate (or sign) words or parts as needed.
- A student using a scribe must be given the same opportunity as other students to plan and draft a constructed response. The scribe may write an outline, plan, or draft exactly as directed by the student without any cueing and guidance to the student.

The scribe should be informed of the preferred method or format for recording the student's response before the date of the assessment. During testing, the student may dictate constructed responses either: Directly to a human scribe who records the responses at the time they are given (computer- and paper-based testing), into a speech-to-text converter (e.g., voice recognition software), augmentative communication device, or assistive technology device to be transcribed by the scribe at a later time into the online testing platform or unto a paper-based book/answer document). A student must be given the opportunity to review and edit their responses before they are finalized into the online testing platform or paper-based test book/answer document.

When using a speech-to-text converter, augmentative communication device, or other assistive technology devices, hard copies of the student's response must be printed out for transcription purposes unless the device being used does not have the capability to print. When printing a response is not possible, scribing must occur as the student dictates or otherwise produces the response. All electronic files must be deleted immediately after the testing session.

The scribe must allow the student to review the scribed response in order to make edits. If requested by the student, the scribe may read the scribed response back to the student. The student may dictate changes or edits to the scribe, and the scribe must make those changes exactly as dictated by the student, even if a change is incorrect. All changes must be made during the test session.

Additional Guidelines for the English Language Arts (ELA) Assessment–Constructed Responses

Capitalization and Punctuation

For the English language arts (ELA) Assessment-Constructed Responses only, the student is responsible for all capitalization and punctuation. This can be accomplished either after testing or during testing using one or more of the following Rules for Punctuation:

- After dictation: The student can dictate the entire response at one time. The scribe will write/ type the response without capitalization and punctuation. When the student is finished dictating, the scribe will show the response to the student. The student will tell the scribe which letters are to be capitalized and where punctuation should be added.
- During dictation: The student may add capitalization and punctuate as they dictate.
 - For example, when stating the sentence "The fox ran." The student will say, "Capital T, the fox ran, period"
 - If a sentence includes other punctuation, for example a comma, the student must indicate the
 - comma. For example, when stating, "The boy bought apples, oranges, and bananas." The student will say, "Capital T, the boy bought apples, comma, oranges, comma, and bananas, period"

Students must be given the opportunity to proofread their responses, even if they provide capitalization and punctuation during dictation.

Rules for Capitalization

The scribe can automatically capitalize in these cases:

- The scribe should capitalize the first letter of a sentence if the student has indicated the punctuation in the previous sentence. For example, if the student said, "Capital T, the fox ran, period. The fox jumped, period." The scribe would write "The fox ran. The fox jumped."
- The first word in a new paragraph when students have indicated for the scribe to begin a new paragraph.

The student must specify capitalization in the following cases:

- The first letter of a sentence, if the student has not indicated punctuation in the previous sentence. For example, if the student said, "Capital T, the fox ran, the fox jumped, period." The scribe would write "The fox ran the fox jumped."
- Other capitalization (e.g., capitalization of proper nouns, acronyms, etc.)

Scribe Parameters during the Assessment

The following scribing practices are acceptable:

- The scribe may ask "Are you finished?" Or "Is there anything you want to add or delete?"
- The scribe may respond to procedural questions asked by the student such as, "Do I have to use the entire space to answer the question?" The scribe may indicate "no."
- If the student requests that the scribe read a response that was already dictated, the scribe must read what the student dictated previously in an even voice, being careful not to cue the student to errors.

The following scribing practices are unacceptable:

- The scribe cannot influence the student's response in any way.
- The scribe cannot give the student specific directions, clues, or prompts; e.g., "First, set the equations equal to one another;" or "Make sure that the equation is set equal to zero."
- The scribe cannot tell the student if his/her answer is correct or incorrect.
- The scribe cannot answer a student's questions related to the content, e.g., "Is this the right way to set up the problem?" Or "Can you tell me what this word means?"
- The scribe cannot alert the student to mistakes they made during testing.

Special Considerations When Scribing for a Student Who Uses Sign Language or Cued Speech

- The scribe for a student who signs their responses must be fluent in ASL, signed English, or other sign systems the student uses.
- When responses are dictated by a student using American Sign Language (or other signed system), the scribe may ask clarifying questions regarding the use of classifiers. Classifiers give descriptive information about a noun or verb, such as location and kind.
- The scribe will write the student's responses in English. The transcription of ASL will not be done in a word-to-word format, but instead will be written in English without changing or enhancing the meaning of the content, adding information, or explaining concepts unknown to the student (e.g., student signs "HOUSE WHITE LIVE THERE ME." Scribe writes "I live in the white house.")
- The scribe must follow all other acceptable scribing practices.

Appendix E

Use of Speech-to-Text/Voice-Recognition Software/Devices

Speech-to-text conversion or voice-recognition software allows students to dictate responses into their computer microphone and have the responses converted to printed text. For this accommodation, students will use their own assistive technology devices at a separate computer station equipped with speech-to-text/voice recognition software in order to respond to multiple-choice, open-ended items, and extended responses on the LEAP 2025 assessments.

Students who use voice recognition software routinely and for whom this accommodation is listed in their IEP may use speech-to-text/voice recognition software as an accommodation on the LEAP 2025 assessments. Students must become familiar with the software and must have opportunities to practice using it prior to testing. It is also important that students who use speech-to-text devices be given the opportunity to develop planning notes using speech-to-text and view what they produce via speech-to-text.

Upon completing a test, the student's responses should be printed out, and the guidelines for transcribing student responses followed.

Guidelines for Transcribing Student Responses (Paper-based testing only)

Certain situations involving scribing of responses during administration of LEAP 2025 assessments may require a Test Administrator to transcribe a student's response in a standard, scoreable test booklet or answer document. These situations may include:

- Answers were recorded in the wrong section of a Test Booklet or Answer Document or in an incorrect Test Booklet or Answer Document.
- A student takes the test using a special test format that requires answers to be transcribed (e.g., large print).
- A student uses a speech-to-text converter, augmentative communication device, or assistive technology device to be transcribed by the scribe at a later time.
- As an accommodation, a student records answers in a test booklet, answer document, or on blank paper instead of in the required Test Booklet or Answer Document.
- A Test Booklet or Answer Document becomes unusable (e.g., torn, wrinkled).

If a student's responses must be transcribed after test administration is completed, the following steps must be followed:

• At least two persons must be present during any transcription of student responses. One of these persons will be the transcriber, and the other will be an observer confirming the accuracy of the transcription. It is highly recommended that one of the individuals be an authorized LEA Test Coordinator or School Test Coordinator.

The student's response must be transcribed verbatim into the Answer Document or Consumable Test Booklet. The student's original response in an Answer Document/Test Booklet should be returned with secure test materials. The LEA Test Coordinator or School Test Coordinator should write "DO NOT SCORE" or draw an "X" in large font on the front of the original Answer Document/Test Booklet. Do not cover the barcode. Return them with nonscorable test materials.

- Braille transcription: Only an eligible Test Administrator who is a certified Teacher of Students with Visual Impairment, including Blindness, or someone working under the direct supervision of an eligible Test Administrator who is a certified Teacher of Students with Visual Impairment, including Blindness may transcribe the student's responses onto the paper or online form of the LEAP 2025 assessments.
- Any original student responses that were printed from an assistive technology device or recorded

separately on blank paper (or on other external devices) must be securely shredded.

Procedures for Transcribing Student Responses for Computer-Based Testing

Selected Response and Technology Enhanced Items

For selected response and technology-enhanced items, student responses must be entered into Insight during the test session by the Test Administrator. Once the student reaches the end of the test with all Selected Response and Technology-Enhanced Items completed, the Test Administrator should have the student EXIT the test but not submit the test.

Constructed Response Items

During the administration of computer-based LEAP 2025 assessments, students who require the use of a speechto-text converter, augmentative communication device, or assistive technology device will need constructed responses transcribed into Insight by a Test Administrator before the online testing window closes. In these situations, the following steps must be followed:

- As the student encounters constructed responses, they should use his/her device to respond to the questions. The student will then continue testing in Insight, leaving these items unanswered in Insight.
- Once the student reaches the end of the test, the Test Administrator should have the student EXIT the test but NOT submit the test.
- At least two persons must be present during any transcription of student responses. One of the individuals must be an authorized Test Administrator.
- The student's responses must be transcribed verbatim into Insight. (See note above about scribing signed responses in English).
- Once all items have been transcribed, the Test Administrator will submit the test.
- After transcription is complete, all original student responses that were printed from an assistive technology device must be securely shredded.

Notes

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