Connecticut
Alternate
Science
Assessment

CONNECTICUT STATE
DEPARTMENT OF EDUCATION · CSDE

Connecticut Alternate Science (CTAS) Assessment

Assessing Students Who Are Blind, Deaf, or Deaf-Blind

Additional Guidance for Test Administration

2019–2020

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Table of Contents

Overview of the CTAS Assessing Students Who Are Blind, Deaf, or Deaf-Blind: Additional Guidance for Test Administration

The *CTAS Assessing Students Who Are Blind, Deaf, or Deaf-Blind: Additional Guidance for Test Administration* is provided for the Teacher Administering the Alternate (TEA) who will be administering the Connecticut Alternate Science (CTAS) Assessment and includes:

(1) tasks to complete before, during, and after the administration of the CTAS; and

(2) strategies, with definitions and examples that may be used by the TEA as appropriate for individual students to enhance access to the CTAS.

***CTAS Assessing Students Who Are Blind, Deaf, or Deaf-Blind: Additional Guidance for Test Administration* must be used in conjunction with the CTAS Required Test Materials. This document is intended for use with students who are Blind, Deaf, or Deaf-Blind.**

Generally, the TEA will utilize this document with specified students who have one or more of the following characteristics:

- Low vision: uses vision for some activities of daily living;
- No functional use of vision for activities of daily living, or unable to determine functional use of vision;
- Hearing loss aided, but loss is still significant;
- Profound hearing loss, even with aids and/or undetermined functional use of hearing; and/or
- Uses braille (contracted or uncontracted).

Responsibilities of the Teacher Administering the Alternate (TEA)

The responsibilities of the Teacher Administering the Alternate (TEA) are highlighted in Table 1.

Table 1. Responsibilities of the Teacher Administering the Alternate

Before Test Administration
Develop a plan to administer the test items using the strategies in this document that are appropriate for each individual student, ensuring testing is completed by June 5, 2020. Refer to Appendix A. Planning Templates.
Identify what needs to be prepared for each student, based on the information provided in the CTAS Required Test Materials and the *CTAS Assessing Students Who Are Blind, Deaf, or Deaf-Blind: Additional Guidance for Test Administration*.   Preparation may include the following: • Changing the size of graphics as needed.   • Gathering relevant tactile symbols, graphics, and object replacements with which the student is currently familiar and that appropriately represent the referent in the item.   • Determining the best positioning for the student that will allow him or her to select a response option and manage fatigue. For example, a student with limited arm movement should not be required to cross midline or use an extended reach to indicate a response. Positioning may include placing response options horizontally or vertically, but in the same order as indicated in the assessment item, or possibly placing them on a tray with dividers.
Provide the student with practice in selecting an answer from two or three choices using either specific tactile symbols or objects that represent response options or generic tactile symbols or objects that represent response options.

During Test Administration
Administer all of the items in each Storyline. If the student is unable to respond to an item, proceed with administering all other items.
Ensure that the items and response options are presented in ways that do not cue an answer (e.g., always placing the correct answer closest to the student).
Schedule test administration in reasonable time slots and during the time of day most appropriate for the individual student.
Use strategies that are already being used successfully with the student: • Item positioning/placement as described above;   • Student seating/positioning for optimal access; and/or   • Item presentation rate and test session duration.

• Familiar tactile symbols (e.g., piece of fur to represent a cat referenced in a passage) and/or objects (e.g., an eraser that is represented in the item).
Maintain the student's attention and engagement with the test items: • Advise the student that some items may seem hard. • Give information about the number of answers he or she will need to give. • Indicate progress toward completing the number of responses. ("Great, you've given three answers; we have____left to finish.") • Take breaks initiated by the TEA or the student. • Provide consistent encouraging statements (e.g., "I like the way you are working.") prior to administering the next item.
Use the same response latency, time between asking a question and the student response, as used instructionally.

After Test Administration
Keep the Student Score Worksheet in a secure location in between administrations of the Performance Task(s). Student Score Worksheets must be entered into the Data Entry Interface (DEI) by June 5, 2020.

Section I. Strategies for the Teacher Administering the Alternate (TEA)

In this section, the strategies that may be used with students with visual/hearing disabilities are defined and examples are provided. Review the strategies in this section and identify those that are appropriate for implementation with each individual student. The following strategies are described in this section:

- Build Background Knowledge
- Tactile Graphics and Symbols
- Object Replacement
- Sign Language
- Student Response Strategies
  - Oral speech or signs
  - Hand/finger
  - Eye-gaze
  - Augmentative and Alternative Communication (ACC) systems

Additional resources are in Appendix B: Resources.

1. Build Background Knowledge

Some students, because of their vision or hearing disability (ies), may not have the background knowledge and experience that allow them access to certain test items. To ensure that these students have an equitable opportunity to access the items, the TEA should read each the CTAS Performance Tasks and review the associated materials **prior** to the test administration. Prior to testing, the TEA can determine if there are any text, graphics, or materials with which the student may need more experience. If the TEA determines that the additional experience is appropriate, the TEA should present to the student the text, graphics, or materials identified for up to three (3) sessions prior to actually administering the test. The purpose of this additional exposure is to allow the student to gain the background knowledge and experience necessary before accessing the items; **it is not to expose or teach the student the test item or test content.**

If the TEA chooses to provide exposure to text, graphics, or materials prior to administering the test, caution must be used when explaining text, graphics, and material to the student. While helping a student gain background knowledge, it is important not to cue an answer to an item. Refer to *Table 2: Practices for Building Student Background Knowledge Before Testing*. Note: Practices indicated as "Not Allowed" are considered inappropriate test practices or irregularities and have relevant consequences.

Practices for Building Student Background Knowledge Before Testing

While building background knowledge, the actual item and response options should not be used to avoid teaching the item. Allowable practices are indicated in Table 2.

Table 2. Practices for Building Student Background Knowledge Before Testing

Allowable Practices	Not Allowable Practices
Read/sign the passage and explain what the prepared tactile graphics or object replacements are and what they represent (e.g., the TEA can present a simplified raised line drawing of a plant or an actual plant and explain each part of the plant).	Address or present any of the actual test questions or answers after reading the Performance Task script.
Present tactile graphics or object replacements that may be unfamiliar to the student and describe them (e.g., the TEA can present tactile geometric shapes and talk about the attributes—names, number of angles, number of sides, characteristics of sides. If the item is about the number of angles related to a triangle, other shapes with angles should be presented to the student while building background knowledge).	Emphasize any piece of the test question or Performance Task that could be construed as teaching solely toward the answer to the specific question.
Read/sign any necessary contextual descriptions included in the CTAS as appropriate. The TEA may explain the graphic, chart, table, timeline, etc. (excluding answer options) to the student, if the explanation does not cue the correct answer to a test question.	Cue the correct answer to a test question or explain the graphic in a way that will teach the student the answer to the item question.
Highlight words and phrases by adding tactile symbols/objects or provide further explanation if the highlights or explanations do not solely cue the correct answer to the test question.	Emphasize words in ways that cue the correct answer to a test question or explain the graphic in a way that will teach the student the answer to the test question.

2. Tactile Graphics and Symbols

Tactile graphics and tactile symbols may be used when the student is unable to see graphics that are essential to understanding the item.

Tactile graphic: Raised version of a print graphic that is adapted for the sense of touch (*Guidelines and Standards for Tactile Graphics, 2010 Braille Authority of North America*). Example: Raised lines on a simplified image of the parts of a flower or on a mathematical graph.

Tactile symbol: A concrete representation developed for individuals who are totally blind and who have a practical need for a graphic language system. (See https://www.tsbvi.edu/seehear/archive/tactile.html.) Example: A seed glued to a textured triangle to represent a plant or a textured slanted line with a series of dots made of glue on a textured triangle to represent a graph. Review the following steps for some examples of concrete representation:

a. Review the text and graphics (e.g., illustrations, diagrams, timelines, and tables/charts) prior to test administration. Illustrations accompany many items, which serve to focus attention for most students. However, for some students with vision impairments, these may be distracting and not helpful. In these cases, graphics that are not essential for understanding the item may be suppressed (e.g., covering the graphic, omitting any reference to the graphic).

b. Plan for graphics that are essential for understanding the item by providing tactile symbols/graphics already available in the student's communication system and that match the referents in the item. The following strategies may be helpful:
   - Determine which graphic(s) in the item or response options are not adequate for the student.
   - Identify the essential components of the graphic(s) (e.g., a car may be essential to understand the item, but the house behind the car may not be) and suppress components that are not essential.
   - Add visual contrast to graphics for a student with low vision.
   - Determine ways to simplify the graphic(s) (e.g., lines that indicate highlighting on an apple may not be necessary to include in a tactile symbol).

c. Position titles, headings, labels, and connecting lines so they can be adequately separated by spacing and do not cross unnecessarily. Add tactile qualities to the graphic(s) using available tools. Possible options include the following:
   - Tooling – use a tool such as a tracing wheel to make raised areas on paper or diagramming foil.
   - Collage – use textured materials (e.g., corrugated paper, crochet cotton, string, punched-out dots) glued onto paper to form a raised image.

- Other techniques – use items such as pliable waxed yarn sticks; hot glue; acrylic or puff paint; raised line graph paper; or compressed sponge that can be drawn on, expands when wet, then used when dried.

d. Present the tactile graphic(s)/symbol(s) whenever referent is read/signed in the item. Do not use the same tactile graphic used in the items as the response option as this may cue the correct response. A part of the graphic or a different version could be used. For example, if the tactile graphic in the text depicts a frog on a lily pad and the response options are "frog," "bird," and "sun," a tactile symbol of just the frog without the lily pad could be used for a response option.

e. Help the student explore the entire graphic with one or both hands and locate key information.

3. Object Replacement

Object replacement may be used when the visual and/or tactile graphics do not provide optimal accessibility for the student.

Object replacement: An object or part of an object that represents a person, place, object, or activity (http://www.projectsalute.net/Learned/Learnedhtml/ObjectCue.html). Example: A silk flower petal, leaf, and stem to represent parts of a flower or interlocking centimeter blocks to represent graphed numbers.

a. Use symbolic representations of the objects specified that the student is already using or that are already familiar to the student and that are close matches to the referents in the items. It is usually preferable to use whole objects or parts of objects rather than miniatures due to the visual reference required to understand miniatures (e.g., piece of bark or a twig vs. a toy tree).

b. Pair presentation of the object with the term it is representing in print, using Braille, sign language, or verbal instruction.

c. Use the actual objects specified in the item when feasible (e.g., use pencils when counting a quantity of pencils or actual materials used in step-by-step directions in a passage).

d. Use objects or parts of objects that can be easily manipulated by the student (e.g., a thin paperback book vs. a hardcover dictionary to represent a book).

e. Use objects that stand for things (such as using blocks or other counters for quantities).

f. If several of the same objects are required to understand an item or to select/construct an answer, make sure that all objects provided are as similar as possible. For example, if an item requires the student to interact with four pencils, provide four pencils that are the same diameter, length, and color, so the student can focus on the concept and does not have an opportunity to get distracted by irrelevant information.

g. If geometric shapes are required to understand or answer an item, make sure the shapes are "true," especially in mathematics. Some examples follow:
- Squares and rectangles should have straight, parallel sides and four right angles (no rounded corners).
- Triangles should have angles that exactly match the triangles in the item (no rounded corners).
- Shape dimensions should be exactly the same (or at least proportional) to those in the item.
- All shapes specified in an item should be the same in terms of texture, material, color, and so forth, so the student can focus on the concept and does not have an opportunity to get distracted by irrelevant information. For instance, if an item requires the student to have access to a circle, a square, and a triangle, all the shapes should be similar in size (e.g., around 3 square inches), the same material (e.g., 3/8-inch foam board), and the same color (e.g., red).
- Two-dimensional shapes in an item should be thick enough for the student to manipulate easily, but thin enough so they are not easily confused with a three-dimensional shape. For example, an item requiring a 3-inch square could have an object replacement of a ¼-inch thick cardboard "square" measuring 3 inches length by 3 inches width. A wooden block measuring 3 x 3 x 3 inches would not be appropriate (i.e., that would be a cube, not a square).
- Three-dimensional shapes (e.g., cylinders, cones, pyramids, cubes, spheres) in an item should be three-dimensional. For example, an item requiring a cube measuring 3 x 3 x 3 inches could be represented by a wooden block with those dimensions, but a ¼-inch thick cardboard "square" measuring 3 inches length by 3 inches width would not be appropriate (i.e., that would be a square, not a cube).

h. Help the student explore the entire object using one or both hands to understand the representation and locate key information.

4. Sign Language

a. Review the student's accessibility needs and language use. Refer to the student's Individualized Education Program (IEP) and accommodations.
- Determine what language mode the student uses (e.g., ASL, Signed English).
- Note if the student has additional communication needs (e.g., tactile sign, close vision) that affect interpreting and make appropriate preparations.
- Be mindful of the student's fluency in sign language to appropriately adjust rate of signing and sign choices.

b. Preview instructions and test items carefully to prepare for sign language accommodation.

- Determine how to interpret items so as not to cue an answer (e.g., do not include the definition of the word in the interpretation if the item is asking for the definition).
- Carefully note when fingerspelling may not be appropriate because it may cue the answer (e.g., fingerspelling "p-e-n" when the test item asks the student to point to the word *pen*).
- If a student reads a word by fingerspelling and the purpose is to know if the student can read the word, ask the student to describe the word.
- For multiple-meaning words that are not being assessed as vocabulary, use the word that has the appropriate meaning for the context of the passage and for the student.
- During the test, interpreters may find it helpful to read the full item or hear the entire item before interpreting to the student. This is important to ensure the interpreter does not sign the item in a way that cues the answer.

c. Pay attention to vocabulary phrases where English word order is necessary to maintain the intent of the test item (e.g., sign English idioms word-for-word to maintain the meaning of the idiomatic phrase).

d. In cases where items include names of people who do not have established sign names, fingerspell the names the first time and assign each person a sign name. Use only the sign names for the remaining occurrences of each person's name.

e. Interpreters should work with the TEA to ensure reasonable time periods for breaks to reduce fatigue for student and interpreter.

5. Student Response Strategies

a. If the student uses oral speech or signs, do the following:
- Allow the student to identify the item choice by naming/signing the response option (e.g., "dog"); providing the location of the answer (e.g., top, middle, bottom); or providing an associated letter or number (e.g., a, b, c, or 1, 2, 3).
- Enter the appropriate score based upon the student's response.

b. If the student uses a hand or finger response do the following (for some students, crossing the midline or extended reach could result in fatigue, thus reducing the reliability of the response):
- Place response options in close proximity to the student's dominant hand.
- Place response options in the same order as indicated in the Performance Task script.
- Make sure the response options are far enough apart so that the student's response is clear.

c. If the student uses eye-gaze, do the following:

- Increase size of response options as needed and print.
- Consider positioning the response options on a clear surface in a clockwise order (i.e., A) in upper left-hand corner, B) in upper right -hand corner, and C) in the lower center position. Leave an empty space in the center to center the student's gaze before indicating a response).
- Direct the student to look in the empty space to center his or her gaze, as needed, so that when he or she indicates a response, the observer can clearly see the student's choice.
- TEA or visual support staff should confirm that the TEA can clearly determine the student's selection.

d. If the student uses an Augmentative and Alternative Communication (AAC) system, do the following:
- Ensure the AAC system is available, programmed for the individual student if needed, and in working order.

Section II. Visual Accessibility of Images and Graphics

Most images included in the CTAS assessment are accessible for students with low vision. They are visually simple and use bold sans serif font and high-contrast colors. These guidelines address the rare instances in which the visual accessibility may need to be modified to address the student's visual impairment.

These guidelines address *general* accommodations for students with low vision. Please consult your Teacher of the Visually Impaired with regard to specific accommodations for your student.

The guidelines are separated into 2 categories: low vision (for students with ocular impairment) and Cortical Visual Impairment (CVI) (for students with cortical visual impairment).

Low Vision Guidelines

- **Increase contrast**

Some images, like the ones pictured below, would benefit from increased color contrast for these students.

- **Outline or separate relevant information**

In images such as these, consider outlining the information that is most relevant to the student's understanding and information that is not necessarily visually distinct. For example, in the pictures on the right,the wavy "water" line and straight "ice" line can be outlined. The line which designates the water/ice from the rock can also be outlined in order to emphasize that they are different surfaces.

Before water

After ice
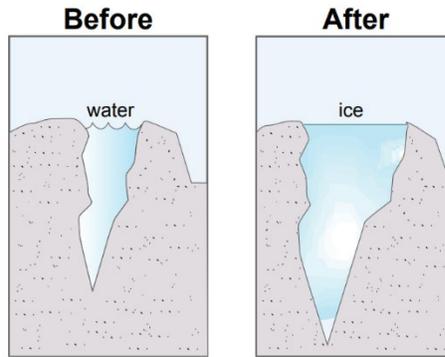
In the image below, the giraffe may be diffcult to separate (visually) from it's background. In examples such as these when the object and background are visually similar, consider presenting the giraffe by itself, accompanied by a separate picture of its environment.

Giraffe in its Environment

# Cortical Visual Impairment (CVI) Guidelines

- **General sensory considerations**

Students with Cortical Visual Impairment (CVI) often have difficulty processing auditory and visual input simultaneously. If the student requires that information be read aloud to them, consider presenting the pictures after auditory instructions.

As always, it is particularly important that students with CVI have access to a quiet area for assessments.

- **Use realistic photographs**

For many students with CVI, realistic or abstract color drawings are challenging to interpret. If this is the case for your student, use color photographs to replace images such as the ones below.

Fox
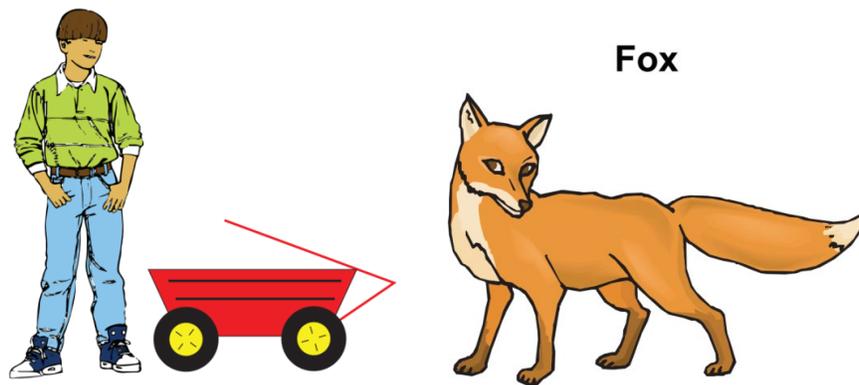
An image like the one below could potentially be very difficult for a student with CVI to interpret. The drawings are quite abstract and may not be understood by the student without accommodations. Consider using a photograph of trees in summer for the top image, and the same trees in autumn for the bottom image. In this instance, the relevant visual information (the trees) may need to be highlighted.


This drawing of a field mouse is quite realistic and may be accessible to some students with CVI. Still, if color photographs are the most accessible image for the student, drawings such as this one should also be replaced.

Field Mouse

- **Simplify**

If abstract images are accessible to your student, some accommodations may still be necessary for optimal accessibility. In the image below, the white marks in the water and the light brown shapes in the mountains are clearly added to represent motion in the water, and crevices in the mountains. Consider eliminating lines or shapes such as these, as the changes in color may not be interpreted as such by a student with CVI. These differences in color may be interpreted as objects separate from the water or the mountains.

Before Snow Melt   After Snow Melt
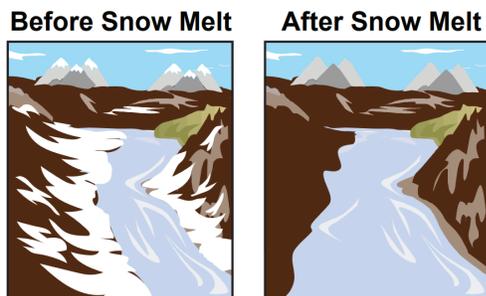
- **Highlight salient features**

The image below points out the most noticeable, consistent, and important visual features by which the student can recognize a giraffe. These features can be referred to as "salient." Rather than using arrows to indicate these features, consider highlighting the salient features with the student's preferred color.

large ears   long neck   brown spots
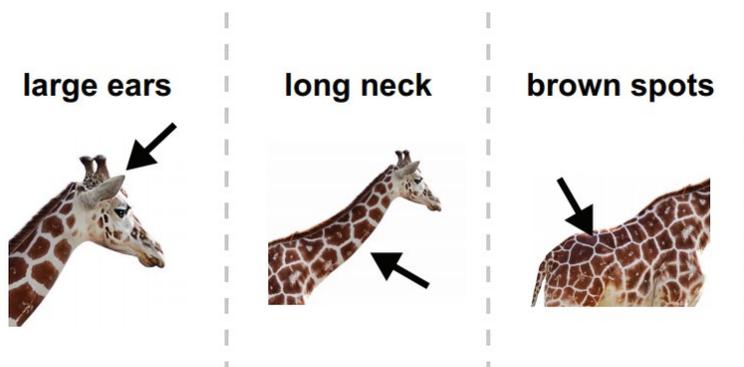
- **Use of color**

  Many students benefit from the use of their preferred color to help them to visually attend to important information. Consult with your Teacher of the Visually Impaired (TVI) regarding how to use color throughout the assessment. The color choice will vary depending on the preference of your student.

Appendix A. Planning Templates

Student Name:

Grade:

Planning for Graphics

Review the Strategies section in the *CTAS Assessing Students Who Are Blind, Deaf, or Deaf-Blind: Additional Guidance for Test Administration* and use this chart to plan the best way to enhance access for the individual student who is blind or deaf-blind (including students who have low vision, no functional vision, or for whom the TEA is unable to determine functional use of vision).

Graphic Resource Number		Braille	Tactile symbols/ graphics	Visual contrast	Object replacement	Other
Example:	pp. 45 - 48	x	x	Print on yellow paper and enlarge font to 18pt	x	

Planning for Sign Language

Review the Sign Language section in the *CTAS Assessing Students Who Are Blind, Deaf, or Deaf-Blind: Additional Guidance for Test Administration* and plan how to sign any words, phrases, or names in a way that does not cue an answer, that are important to sign a certain way, or that require repetitive fingerspelling for the individual student who receptively uses sign language.

Page #s in Performance Task Script or Resource Packet	Words that require fingerspelling	Phrases that require signing in English word order	Names that do not have a sign name
	Example: "hybrid" – ok to fingerspell	"Dig in"	"John Glenn" (finger spell and then sign "J" and "helmet")

Planning for Student Response

Read the Student Response Strategies section in the *CTAS Assessing Students Who Are Blind, Deaf, or Deaf-Blind: Additional Guidance for Test Administration* to plan the most efficient way(s) for the individual student to respond to items and identify any preparation needed.

Verbal Speech	Signing	Pointing/Gesture/Touching	Eye-Gaze	AAC	Preparation
			Example: place in clockwise order on eye-gaze board		Example: print and cut apart answer options

Appendix B. Resources

American Printing House for the Blind, Inc. (2009). Retrieved December 23, 2019, from APH for the Blind, Inc.: https://sites.aph.org/files/tests/Test-Access-Making-Tests-Accessible-for-Students-with-Visual-Impairments-4th-2009.docx.

Belote, M. (2009). Fact sheet getting started with object communication. Retrieved December 23, 2019, from Idaho Project For Children and Youth with Deaf-Blindness: https://idahocdhd.org/portals/71/Documents/FactSheets/Comm/GtngStartedObjctComm.pdf.

Eriksson, Y. (1999). How to make tactile pictures understandable to the blind reader. The Swedish Library of Talking Books and Braille. Retrieved December 23, 2019, from http://origin-archive.ifla.org/IV/ifla65/65ye-e.htm.

Hagood, L. (n.d.). *See/Hear*. Retrieved December 23, 2019, from Texas School for the Blind and Visually Impaired: http://www.tsbvi.edu/seehear/archive/index.htm.

Joint Project of the Braille Authority of North America and the Canadian Braille Authority L'Autorite Canadienne du Braille. (n.d.). *Guidelines and Standards for Tactile Graphics, 2010.* Retrieved December 23, 2019, from http://www.brailleauthority.org/tg/.

"Paths to Literacy." Paths to Literacy | for Students Who Are Blind or Visually Impaired. Retrieved December 23, 2019, from https://www.pathstoliteracy.org/.

Project SALUTE. (n.d.). *Project SALUTE: Object Cue*. Retrieved December 23, 2019, from Project SALUTE: http://www.projectsalute.net/Learned/Learnedhtml/ObjectCue.html.

Tactile Graphics. Retrieved from Colorado Springs, CO. December 24, 2019: http://tactilegraphics.org/index.html.

Texas School for the Blind & Visually Impaired. (n.d.) *Project Math Access.* Teaching students to use tactile displays. Retrieved December 24, 2019, from http://www.tsbvi.edu/mathproject/ch6-sec2.asp.
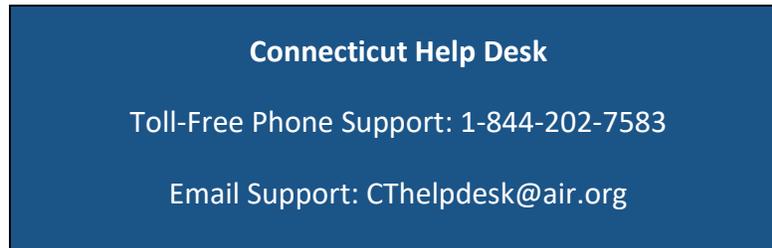
Appendix C. Student Assessment Office Contact Information

Listed below is the contact information for CSDE Performance Office support for the CTAS.

Name	Phone	E-mail
Student Assessment, Performance Office	860-713-6860	CTStudentAssessment@ct.gov
Janet Stuck	860-713-6837	Janet.Stuck@ct.gov
Deirdre Ducharme	860-713-6859	Deirdre.Ducharme@ct.gov

Appendix D. Help Desk Contact Information

The Help Desk is open Monday–Friday from 7:00 a.m. to 7:00 p.m. ET during the summative testing window and Monday–Friday from 7:00 a.m. to 4:00 p.m. ET outside of the summative testing window (except holidays).

Connecticut Help Desk

Toll-Free Phone Support: 1-844-202-7583

Email Support: CThelpdesk@air.org

Please be prepared to provide the Help Desk with the following information when discussing concerns:

1. Caller's Name
2. Caller's E-mail Address
3. District Name
4. District Test Coordinator's Name
5. School Name
6. Student SASID
7. Student Grade
8. Contracted or Uncontracted Braille if applicable
9. Type of device using if applicable.