

## Text-to-Speech for Mathematics and Science

This feature is only available for students who demonstrate the need for audio assistance in Math and Science. Reference Tool 5 for more information and guidance.

## Guidance for Text-to-Speech use on NSCAS General Science and Mathematics

TTS (text-to-speech for NSCAS ELA & Mathematics is only available to specific EL students and students with an IEP or 504 Plan. Additional information is available in the NSCAS Accessibility Manual).

Text-to-speech for NSCAS Growth Mathematics and NSCAS Science is a designated support. A relatively small number of students will require additional features for their particular needs (for example, changing the background or font color). Providing too many tools might distract some students. Therefore, some designated features will be selected prior to test administration based on the individual needs and preferences of the student. Students should practice using these features and understand when and how to use them. Students can decide whether to use a preselected support without any consequence to the student, school, or district.

Individualizing access needs on the test for each student provides increased opportunities to accurately demonstrate knowledge and skills.

Please note: A student already assigned access to text-to-speech for one or both NSCAS ELA & Mathematics due to the student's IEP, 504, or EL plan should also have access to text-to-speech on NSCAS Science.

Text-to-speech is an embedded, designated support as it is available as part of the technology platform. Embedded supports will need to be turned on for each student that needs the support. Decisions should be made on an individual student basis based on the specific needs of the child as opposed to group decisions for a class or grade. No single indicator determines if a student should have text-to-speech; rather, educators should consider an entire body of evidence when making the decision for each student.

### Considerations

- NDE, NWEA, and our Nebraska educator test developers attempt to write NSCAS Growth Mathematics and NSCAS Science questions two reading grade levels below the grade level tested. For instance, questions for the 8th grade NSCAS Science are written at the 6th grade reading level. Some content standard specific language may increase the reading difficulty of questions.
- Text-to-speech is only available in English.

- Besides students that have access to text-to-speech due to determinations on an IEP, 504, or EL Plans, a small percentage of students may benefit from access to text-to-speech. When educators gather to determine if additional 3rd through 8th grade students would benefit from text-to-speech on the NSCAS Growth Mathematics and NSCAS Science, consider the following questions:
  - Does the student receive intervention supports in the area of reading?
  - Does the student regularly use text-to-speech supports to access text during regular classroom activities?
  - Does the student use text-to-speech support on other assessments?
  - Is there a reliable record of assessment data that indicates the student is reading below grade level?

If the answer to any of these questions is affirmative, educator teams should consider enabling access to text-to-speech tool on the NSCAS Growth Mathematics and NSCAS Science. Educator's determination for each student should be in the best interests of each student and not based on logistical convenience for adults or the school. Any student that has text-to-speech enabled will need headphones for the NSCAS Growth Mathematics and NSCAS Science Administration.

Text-to-speech is a tool that reads aloud to the student via embedded text-to-speech technology. It is commonly used with students who have difficulties with reading and especially struggle with decoding.

As a tool it is important that students have experience with the tool as part of instruction. Text-to-speech tools vary across both software and hardware. Students that benefit from text-to-speech should have training on different tools and the specific tool used for assessment.

## Tool 5: Text-to-Speech

Text-to-speech presents the words auditorily to students. This allows the student to focus on the meaning of words instead of spending all of their time trying to sound out words. Text-to-speech technology is proven to improve academic performance among students who are living with a learning disability and visual impairments. It is also important that text-to-speech strategies are being used in classroom instruction for those students who need the assistance.

### How can text-to-speech help students:

Printed materials like books and handouts can create barriers for kids with reading challenges. That is because some kids struggle with decoding and understanding words on the page. Using digital text can be helpful for these students. Text-to-speech does not replace reading instruction.

### Purpose of text-to-speech:

The purpose of the text-to-speech accommodation is to provide access to printed material for a very small number of students with print disabilities who would otherwise be unable to participate in instruction or assessment. Students who are struggling readers who may need assistance accessing the assessment, students with reading related disabilities or students who are blind and do not yet have adequate braille skills. It is not intended for students who reading somewhat (i.e., only moderately) below grade level.

In making decisions on whether to provide the student this accommodation, IEP and 504 teams need to use the Tool 5 - Text-to-Speech checklist.

This support requires routine practice and familiarization during daily instruction in order to avoid undue confusion and/or impedance of performance during testing. Students who use text-to-speech will need headphones unless tested individually in a separate setting.

Students must be given the opportunity to practice using TTS before the administration of any assessment so they can become familiar with how it works for that assessment.

## Text-to-Speech Decision Guidelines for Nebraska Student Centered Assessment System (NSCAS)

- Use this checklist to help determine which students qualify for text-to-speech (TTS) for accessibility/accommodation.
- Keep this documented updated so it can be used when making the best possible decision for using text-to-speech from year to year.
- A preponderance should exist rather than a few marks in boxes for the student to be provided this level of support. Keep all data used to support the use of this accommodation. (For more information on TTS please refer to the NSCAS Accessibility Manual. Accommodations and Tools Document.)

Grade: \_\_\_\_\_ Student Name: \_\_\_\_\_ ID: \_\_\_\_\_

	Yes	No
1. Does the student's disability or disabling condition impact the student's ability to access printed text?		
a. Is this represented as a need on the student's IEP or Section 504 plan?		
b. Is this student blind or have a significant visual impairment?		
2. If the student is blind or has a significant visual impairment, is the student learning to read braille?		
3. Does this student have an identified reading-based disability that affects the student's decoding, fluency, or comprehension skills?		
4. Does the student currently use text-to-speech, assistive technology software, or audio books support during instruction to access digital print?		
5. Does the student belong to Bookshare (or similar organization)?		
6. Does someone (teacher, paraprofessional, another student, parent) regularly read aloud to the student in school as an instructional support?		
7. Have interventions been used to improve the student's decoding, fluency, or comprehension skills? <b>Please describe.</b>		
8. Does the student currently use text-to-speech support during state assessments or other class/district assessments?		
9. When given the choice, does the student indicate he or she would prefer to read tests to himself/herself?		