

An Overview of the Development and Design of the Connecticut Alternate Science Assessment

Performance Matters September 11, 2018

Agenda

- Overview and development of the Connecticut Alternate Science Assessment (CTAS)
- Eligibility and the use of the Learner Characteristics Inventory (LCI)
- Overview of the 2018 Field Test and the 2018-2019 administration
- Next steps



The Connecticut Alternate Assessment System

CT Alternate Assessment System Comparison Between the CTAA and CTAS				
	Connecticut Alternate Assessment (CTAA)	Connecticut Alternate Science Assessment (CTAS)		
Participating Students	Students have a significant cognitive disability; IEP documents evidence supporting eligibility for the Alternate Assessment System			
Subject Area	Language Arts and Math Aligned to Connecticut Core Standards	Science Aligned to Next Generation Science Standards		
Grades	3-8 and 11	5, 8, and 11		
Teacher Training	Student's primary special education teacher participates in required CSDE training each year and must pass quiz with at least 80% accuracy to administer alternate assessment and access required administration materials			
Student Support and Accommodations	Incorporates student communication modes; entire test is read to student; design includes models, pictures and graphics; IEP accommodations are provided by teacher			
Test Security	Secure Test	Non-Secure Test Go to CSDE Comprehensive Assessment Program Portal for materials (available in fall 2018)		
Test Structure	Multiple Choice Responses and limited Constructive Responses	Performance tasks with student rating scale		

Teacher administers assessment via Online

Test Delivery System during test window

March 25-June 7, 2019



Test Delivery

Teacher administers provided tasks throughout

between March 25-June 7, 2019

year with ratings uploaded into Data Entry system



Overview and Development of the Connecticut Alternate Science (CTAS)



Why Did CSDE Change the Science Assessment?

- On November 4, 2015, CT State Board of Education adopted the Next Generation Science Standards (NGSS)
- Office of Student Assessment began working with assessment partners to develop and plan for implementation of NGSS Science and NGSS Alternate Assessment Field Tests
- 2017 final year for legacy assessments: CMT Science (Grades 5 & 8), CAPT Science (Grade 11), and CMT/CAPT Skills Checklist Science (Grades 5, 8, & 11)



Assessing the Next Generation Science Standards

- Administered in Grades 5, 8, and 11
- Are aligned to the Next Generation Science Standards (NGSS)
- Most students participate in the online standard NGSS assessment
- A relatively small group of students with the most significant cognitive disabilities participate in the Connecticut Alternate Science Assessment (CTAS)



Development of the Connecticut Alternate Science Assessment

- Design and development of the CTAS was facilitated by stakeholders across the state and extensive feedback
- Development (along with extensive committee work) began in October 2017 replacing the legacy CMT/CAPT Science Checklist aligned to former science standards
- The CTAS committee
 - consisted of educators with various areas of expertise in Science and/or special educator across grade levels
 - identified a limited number of NGSS Performance Expectations which are most appropriate for the students eligible to participate in the CTAS
 - created Alternate Science Essence Statements (using the NGSS performance expectations) to capture the most important elements of each standard and make them more accessible to participating students



Connecticut Alternate Science Assessment: Guiding Principles

The Connecticut Alternate Science (CTAS) is more than an assessment. CTAS should

- be meaningful and accessible to participating students
- guide science curriculum and instruction throughout the year by providing a coherent sequence of assessment activities
- allow for administration of the assessment throughout the year
- include an appropriate balance of the breadth and depth of NGSS Learning Progressions across grade bands
- assess the three-dimensions of NGSS
 - Science and engineering practices
 - Disciplinary core ideas
 - Crosscutting concepts
- incorporate scientific phenomena that students make sense of or use to solve a problem
- expect consistent demonstration of the performance expectations by
 students statewide

The Design of the Connecticut Alternate Science Assessment

- Each Connecticut Alternate Science Essence Statement is associated with 2-4 Core Extensions
- Core extensions describe specific student performances and are aligned to provided activities administered by Trained Educators Administering the Alternate (TEA)

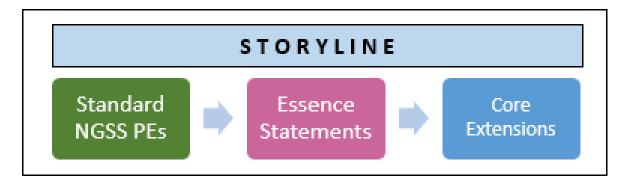
Guiding Questions: How does the weather change in different seasons? What types of climates are there around the world and how can they be described? How does water help to shape the land?

NGSS		Grade 5	
Learning	NGSS Standard	Connecticut Alternate Science	Core Extensions
Progressions	Performance Expectations	Essence Statements	
ESS2.D	3-ESS2-1 Represent data in	CTAS-3-ESS2-1 Use and interpret	1. Recognize two forms of water (e.g., rain, snow,
Weather and	tables and graphical displays	data in tables and graphs to	hail, sleet) that can fall from clouds to Earth.
Climate	to describe typical weather	describe typical weather	(CTAS-3-ESS2-1)
	conditions expected during a	conditions expected during a	2. Identify key components that describe local
	particular season.	particular season.	weather conditions (i.e., temperature, amount
			of cloud cover, precipitation, and wind speed).
	3-ESS2-2 Obtain and combine	CTAS-3-ESS2-2 Use information to	(CTAS-3-ESS2-1)
	information to describe	describe climates in different	3. From provided temperature and precipitation
	climates in different regions	regions of the United States.	data, identify the likely seasons. (CTAS-3-ESS2-
	of the world.		1)
ESS2.A Earth	5-ESS2-1 Develop a model	CTAS-5-ESS2-1 Use a model to	4. From provided data, compare weather
Materials and	using an example to describe	show how wind and water interact	conditions between two specific time periods.
Systems	ways the geosphere,	with land and living organisms.	(CTAS-3-ESS2-1)
	biosphere, hydrosphere,		5. Using provided information, describe the
	and/or atmosphere interact.		climate in Connecticut. (CTAS-3-ESS2-2)
			6. From provided data (average temperature and
			precipitation), compare climates in two
			regions of the United States (e.g., northeast vs.
			southwest). (CTAS-3-ESS2-2)
			7. From provided information about the climate
			pattern in a region, make a prediction about



Primary Components of the Connecticut Alternate Science Assessment

The CTAS is compromised of Performance Tasks consisting of a Storyline capturing the NGSS Performance Expectations, Essence Statements, and Core Extensions within a specific content area (Earth Science, Life Science, and Physical Science).





Structure of the Connecticut Alternate Science Assessment

The CTAS is organized into 6 Storylines, consisting of two storylines per content area, for each assessed grade level (5, 8, and 11).

Content Area	Storyline and Performance Task
Farth Science	1. Earth Systems
Earth Science	2. Natural Resources
Life Science	3. Living Organisms
Life Science	4. Healthy Ecosystems
Dhysical Science	5. Forces and Motion
Physical Science	6. Using Energy Every Day



Elements of the Connecticut Alternate Science Assessment

Each grade-specific CTAS set contains:

- Performance Tasks, which include
 - a guiding question and a general overview of the task
 - a list of materials needed
 - instructions for preparing materials
 - step-by-step activities with built-in script and scaffolding for TEAs
 - scoring guidance
- Resource Packets, which are specific to each Performance Task, and include materials such as posters, graphs, sentence strips
- Student Score Worksheet, which is to be completed in hardcopy and then submitted through the Data Entry Interface (DEI) during the testing window

Connecticut Alternate Science Assessment: Performance Task



Grade 8 Performance Tasks

Earth Science

Storyline 1: Earth Systems

Storyline 2: Natural Resources

Life Science

Storyline 3: Living Organisms

Storyline 4: Healthy Ecosystems

Physical Science

Storyline 5: Forces and Motion

Storyline 6: Using Energy Every Day



CTAS Performance Task Format

Allow student to respond and record response.

SAY "We are now finished with this activity."

ACTIVITY 1

Essence Statement: CTAS-MS-LS1-4 Make and support a claim based on evidence for how animal behaviors and plant structures affect their ability to survive and reproduce.

Core Extension 1: Identify a structure in a plant that the plant uses to survive or reproduce (e.g., a cone falls from a tree to distribute seeds and allows another tree to grow). (CTAS-MS-LS1-4)

Teacher Notes:

Collect the following resources for this activity:

- · Activity 1 Resource 1: Eastern Hemlock Pine Tree Poster
- Activity 1 Resource 2: Cards 2a 2c
 - Card 2a pine tree cones
 - Card 2b pine tree needles
 - o Card 2c pine tree trunk

Steps to Follow:

- "In this activity, we are going to talk about parts of a pine tree that help the 1. SAY tree to survive and make new pine trees."
- Display Resource 1: Eastern Hemlock Pine Tree Poster for the student.
- Indicate Resource 1.
 - "Eastern hemlock pine trees are seed-producing pine trees that spread their seeds using pine cones. These pine cones fall from the tree onto the ground and open to allow the seeds to make new trees."
- "Which part of the pine tree helps the tree reproduce (make new pine ASK
- Provide Resource 2: Cards 2a 2c to the student. Indicate and read each Card.
- a. Indicate Card 2a.

"pine tree cones" SAY

b. Indicate Card 2b.

"pine tree needles"

c. Indicate Card 2c.

"pine tree trunk"

ASK "Which part of the pine tree helps the tree reproduce (make new pine

- Allow student to respond and record response. If no response or if incorrect response, proceed to scaffolding instructions.
- Indicate Card 2a.

"Pine tree cones help the tree reproduce (make new pine trees)."

9. ASK	"Which part of the pine tree supports the tree branches?"		
eacl	vide remaining Resource 2: Card 2b and Card 2c to the student. Indicat remaining Card.	e and read	
a. Indi	cate Card 2b.		_
SAY	"pine tree needles"		
b. Indi	cate Card 2c.		
SAY	"pine tree trunk"]
11. ASK	"Which part of the pine tree supports the tree branches?"		7
AGA AGA			
			7
12. Allo	w student to respond and record response.		
			7
13. SAY	"We are now finished with this activity."		
	nce and Scaffolding		
ffolding: 1. Indi	cate Card 2a.		
			٦
SAY	"Pine tree cones help the tree reproduce (make new pine trees)."]
2. ASK	"Which part of the pine tree supports the tree branches?"		1
	vide remaining Resource 2: Card 2b and Card 2c to the student. Indicat n remaining Card.	e and read	,
a. Indi	cate Card 2b.		
SAY	"pine tree needles"		1
b. Indi	cate Card 2c.		_
SAY	"pine tree trunk"		answer
			Which I
_		1.	a.



a. Card 2c - pine tree trunk

Student...

(Card 2c).

Content Guidance

is unable to identify that the pine tree cones are a

part of the pine tree that helps the tree to reproduce (Card 2a); and

· is unable to identify that the pine tree trunk is a part of the tree that supports the tree branches

. is able to identify that the pine tree cones are a

part of the pine tree that helps the tree to

part of the tree that supports the tree branches

· is unable to identify that the pine tree cones are a

. after scaffolding, is able to identify that the pine tree trunk is a part of the tree that supports the

· is able to identify that the pine tree cones are a

part of the pine tree that helps the tree to reproduce (Card 2a): and is able to identify that the pine tree trunk is a part of the tree that supports the tree branches (Card

part of the pine tree that helps the tree to reproduce (Card 2a); and

reproduce (Card 2a); and · is unable to identify that the pine tree trunk is a

tree branches (Card 2c).

Rating

demonstrate understanding.

The student demonstrates

limited understanding typically

requiring additional support.

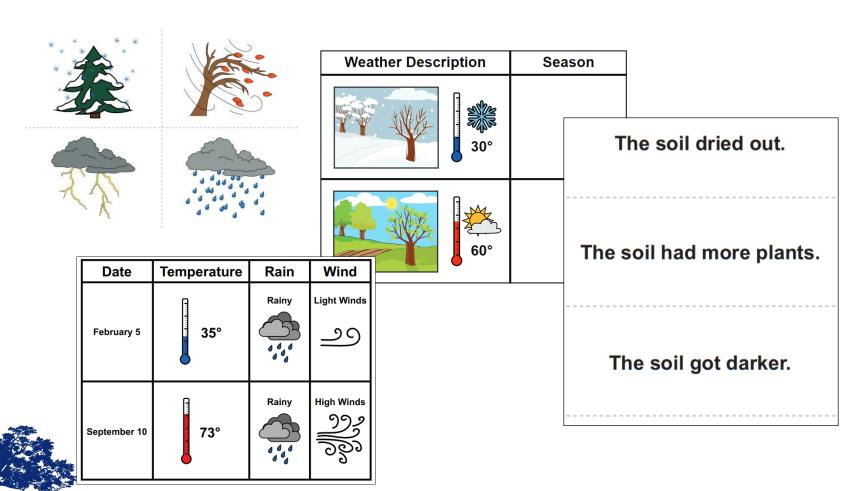
The student demonstrates

understanding independently.

The student does not

Score

Connecticut Alternate Science Assessment: The Resource Packet



Connecticut Alternate Science Assessment: The Student Score Worksheet

Student Score Worksheet

Storyline 1: Earth Systems, Storyline 3: Living Organisms, and Storyline 5: Forces and Motion
Grade 5 Performance Tasks

Student Score Worksheets:

	Earth Science					
Storyline 1: Earth Systems						
	Grade 5 Performance Ta	sk				
Connecticut Alternate Science Essence Statement	Core Extension	Score Ratings: 0 points – The student does not demonstrate understandine.		Feedback How would you improve the Core Extension and/or Performance Task Activity?		
CTAS-3-ESS2-1 Use and interpret data in tables and graphs to describe typical weather conditions expected during a particular season.	ACTIVITY 1 Core Extension 1: Recognize two forms of water (e.g., rain, snow, hail, sleet) that can fall from clouds to Earth. (CTAS-3-ESS2-1)	NR O	0	0	0	
CTAS-3-ESS2-1 Use and interpret data in tables and graphs to describe typical weather conditions expected during a particular season.	ACTIVITY 2 Core Extension 2: Identify key components that describe local weather conditions (e.g., temperature, amount of cloud cover, precipitation, and wind speed). (CTAS-3-ESS2-1)		0	1 O	2	
CTAS-3-ESS2-1 Use and interpret data in tables and graphs to describe typical weather conditions expected during a particular season.	ACTIVITY 3 Core Extension 3: From provided temperature and precipitation data, identify the likely seasons. (CTAS-3-ESS2-1)		0	1 O	2	
CTAS-3-ESS2-1 Use and interpret data in tables and graphs to describe typical weather conditions expected during a particular season.	ACTIVITY 4 Core Extension 4: From provided data, compare weather conditions between two specific time periods. (CTAS-3-ESS2-1)		0	0	2	
CTAS-3-ESS2-2 Use information to describe climates in different regions of the United States.	ACTIVITY 5 Core Extension 5: Using provided information, describe the climate in Connecticut. (CTAS-3-ESS2-2)		0	1 O	2	



Connecticut Alternate Science Assessment: General Rating Scale

- **O Points** The student does not demonstrate understanding.
- **1 Point** The student demonstrates limited understanding typically requiring additional support.
- **2 Points –** The student demonstrates understanding independently.



Allowable Prompts and Cues for 1 Point Score

Prompt/Cue	Description	Example
Partial Physical Guidance	Partial physical assistance during the performance of some part of an activity.	Student requires some physical assistance in providing the correct answer without leading them to the correct choice.
Modeling	Teacher models/demonstrates a specific task or portion of an activity.	Trained TEA shows what action they want the student to perform without leading them to the correct choice.
Repetition(s) with a Cue	Original directions are repeated with the addition of a prompt/cue.	After giving direction such as "show me a plant" the Trained TEA waits for response. If student does not respond, teacher repeats "show me a plant" and points to the array of answer options.



Eligibility for the Connecticut Alternate Science (CTAS)



Eligibility

- Eligibility criteria for participation in the Connecticut Alternate Assessment System (CTAA and CTAS) reflect the pervasive nature of a significant cognitive disability
- Assessment decisions are made by the Planning and Placement Team (PPT)
- The student's Individual Education Plan (IEP) should include detailed evidence throughout to support that the student
 - has a significant cognitive disability;
 - is learning content linked to Connecticut grade-level standards; and
 - requires extensive direct individualized support



The Learner Characteristics Inventory

Connecticut State Department of Education

Required for Participation in the Connecticut Alternate Assessment System

Learner Characteristics Inventory (LCI)

Learner Characteristics Inventory (LCI) – Revised August 2018

Alternate Assessment Eligibility Criteria

Student must meet all 3 criteria components to participate in the Alternate Assessment System.

Evidence-Based Criteria	Criteria Descriptors
The student has a significant cognitive disability.	Review of student records indicates a disability or multiple disabilities that significantly impact intellectual functioning and adaptive behavior. *Adaptive behavior is defined as essential for someone to live independently and to function safely in daily life.
The student is learning content linked to (derived from) the Connecticut Core Standards (CCS) and the Next Generation Science Standards (NGSS).	Goals and instruction listed in the IEP for this student are linked to the enrolled grade-level CCS and NGSS, which address knowledge and skills that are appropriate and challenging for this student.
The student requires extensive, direct, individualized instruction and substantial supports to achieve measureable gains in the grade- and age-appropriate curricula.	The student (a) requires extensive, repeated, individualized instruction and support that is not of a temporary or transient nature, and (b) uses substantially adapted materials, and individualized methods of accessing information in alternative ways, to acquire, maintain, generalize, demonstrate, and transfer skills across multiple settings.

1. I verify that supporting evidence related to the student's assessment options was discussed at the PPT (date of PPT) to determine eligibility for participation in the Connecticut Alternate Assessment System. 2. Evidence reviewed during the PPT was used to determine that: (A) The student meets all three evidence-based criteria for participation in the Alternate Assessments. This student is eligible for and will participate in the Alternate Assessments during the current school year as indicated on Page 9 of their Individualized Education Program (IEP). (8) The student does not meet all three evidence-based criteria for participation in the Alternate Assessments. This student will participate in the standard statewide assessments with designated supports and accommodations (as needed) during the current school year as indicated on Page 9 of their Individualized Education Program (IEP). Reminder: All accommodations, including assistive technology, should be reflected on Page 8 of the IEP for instruction and standard/alternate assessment. 3. I verify that I am the student's primary special education teacher and that I have met the requirements for the current school year's Connecticut Alternate Assessment System Training. Primary Special Education Teacher Completing Form: School Email Address: Date entered into the Data Entry Interface (DEI) on the CSDE Assessment Program Portal: Learner Characteristics Inventory (LCI) - Revised August 2018

VERIFICATION SECTION



Learner Characteristics Inventory (LCI) - Revised August 2018

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Process for Completing the LCI

- The Trained Educator Administering the Alternate Assessment (TEA) must complete a DRAFT Learner Characteristics Inventory (LCI) and provide student evidence supporting decisions at the PPT
- If the PPT determines the student meets evidence based criteria for participation in the Alternate Assessment System, the TEA must submit the LCI through the Data Entry Interface by the grade-specific deadline
- Submitted LCIs via the DEI will activate the AltFlag in TIDE, which provides access to Alternate Assessments and required materials for the trained teacher
- Students who participate in the CTAA will also participate in the CTAS when in Grades 5, 8, or 11





Overview of the 2018 Field Test and the 2018-19 Test Administration



Field Test Information

	Grade 5	Grade 8	Grade 11	Total
2018 CTAS Field Test Participation	596	611	570	1777

Grade 5

Content Area	Storyline Number	Number of Items
Earth Science	Storyline 1	9
	Storyline 2	9
Life Science	Storyline 3	5
	Storyline 4	8
Physical Science	Storyline 5	7
	Storyline 6	6

Grade 8

Content Area	Storyline Number	Number of Items
Earth Science	Storyline 1	8
	Storyline 2	10
Life Science	Storyline 3	5
	Storyline 4	8
Physical Science	Storyline 5	5
	Storyline 6	6

Grade 11

Content Area	Storyline Number	Number of Items
Earth Science	Storyline 1	7
	Storyline 2	9
Life Science	Storyline 3	8
	Storyline 4	9
Physical Science	Storyline 5	5
	Storyline 6	6



Post-Field Test Summary and Actions

Total Number of Teacher Comments

1028

CSDE and AIR gathered student ratings and teacher comments submitted in the DEI during the CTAS Field Test

CSDE and AIR psychometricians developed and carried out item analysis plan

CSDE reviewed, grouped, and prioritized teacher comments

CSDE and AIR staff, including psychometricians and content experts, categorized results into 4 action groups based on:

- item statistical performance;
- teacher comments;
- potential content misinterpretations reflected in teacher comments, statistics, or performance task text; and
- other errors (such as typos, incorrect labels, or word omissions)

Reviewed all items and placed each in 1 of 4 Action Groups which include:

- Action 1: No Change
- Action 2: Minor Change
- Action 3: Must Change (Priority 2 Committee Reviews if Time Permits)
- Action 4: Must Bring to Committee (Priority 1 Committee Feedback Required)

Reviewed Action Group 3 and Action Group 4 items (14 total) with committee to collect suggestions for improvement.

IN PROGRESS

CSDE and AIR make modifications to items based on the suggestions provided by the committee.



CTAS Development & Administration Timeline

Date	Activity
October 10, 2017- February 2018	 Committee work: Rating of NGSS Learning Progressions and selection of Performance Expectations Develop Essence Statements and Core Extensions Finalize Essence Statements and Core Extensions Review/Develop initial Performance Task ideas
February -March 2018	 Release of Connecticut Alternate Science Assessment Communications: NGSS Alternate Assessment Letter from Commissioner Dr. Wentzell to Superintendents Training Webinars for District Administrators (DAs in TIDE) Online training for Teachers Administering the Alternate Assessment Posting of all testing materials to the CT Portal
March-June 2018	Administration of CTAS Field Test and data submission through the Data Entry Interface
Summer 2018	Internal data review and analysis of item statistics and teacher feedback
August 21-22, 2018	Committee reviewed/revised subset of Performance Task materials
August- September 2018	CSDE and AIR will implement final edits to CTAS materials
October-November 2018	PDFs of CTAS material will be posted to the CT Portal; hardcopy packets will be shipped to District Administrators (DAs in TIDE)
November 2018	Online Training through the CT Portal will be available for Teachers Administering CTAS

Responsibilities of the Teacher Administering the Alternate Assessments

Date	Activity
October-November 2018	PDFs of CTAS materials are available on the CT Portal; hard copy materials will be shipped to the District Administrators (DAs in TIDE)
November 2018 – early winter 2019	Required annual Training for Teachers Administering the CT Alternate Assessments (CTAA and CTAS) will be available online through the CT Portal; teachers review training modules and complete a quiz with a score of at least an 80% passing rate in order to receive access to all required testing systems (i.e. the Data Entry Interface, the Test Delivery Interface); once training is complete and the quiz has been passed, teachers may begin administering CTAS (and will be able to administer the CTAA during the testing window)
December 21, 2018	LCI submission deadline through the Data Entry Interface for English Learners with an active IEP in Grades 3-8, and 11
January 18, 2019	LCI submission deadline through the Data Entry Interface for students in Grade 11
February 1, 2019	LCI submission deadline through the Data Entry Interface for students in Grades 3-8
March 25-June 7, 2019	Testing window for Connecticut Alternate Assessments (CTAA) Grades 3-8 & 11 Submission of CTAS Student Scoring Worksheets through the Data Entry Interface



Next Steps

- Performance Level Descriptors
- Standard Setting
- Reporting
- Instructional/Assessment Supports
 Development





Questions?





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