

Sensible Assessment Series: Uses of NGSS Interim Assessments



Connecticut State Department of Education
March 27, 2024



Meeting Reminders



Meeting Reminders:

- The link to the slide deck is in the chat.
- The meeting is being recorded and will be posted to the Student Assessment [Training](#) webpage.
- Attendees are on mute.
- There will be time for questions near the end. Raise your hand or type into the chat.



Today's Agenda



- Overview of Sensible Assessments
- NGSS Interim Assessments
- Districts Sharing about Uses of NGSS Interims:
 - Greenwich: Tara Fogel
 - Winchester: Rachael Manzer
 - Berlin: Adam Leonard
- Questions for presenters
- Additional resources and wrap-up



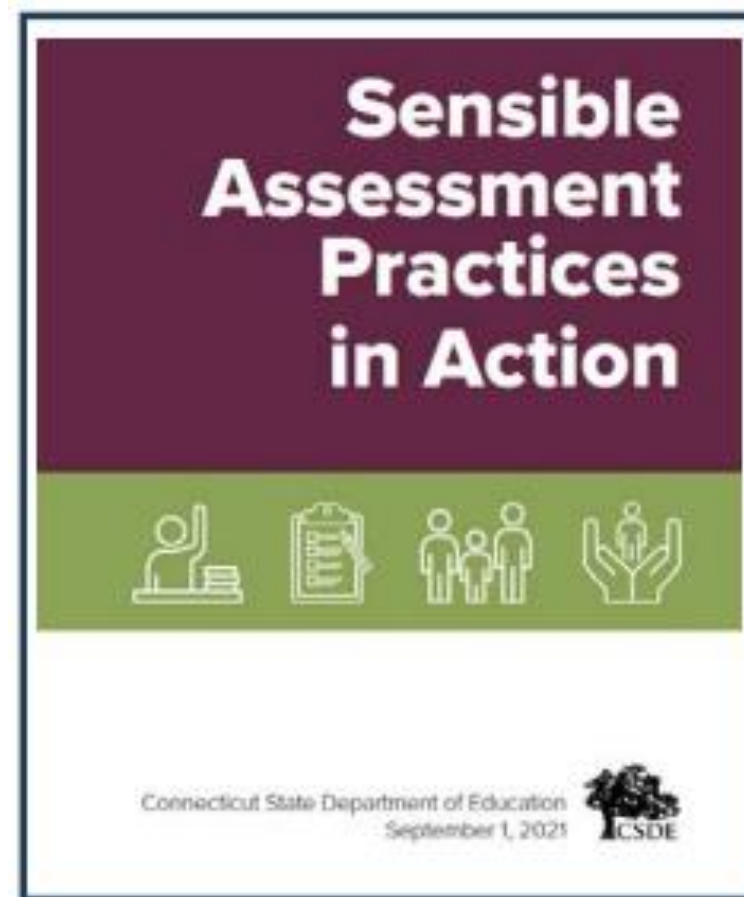
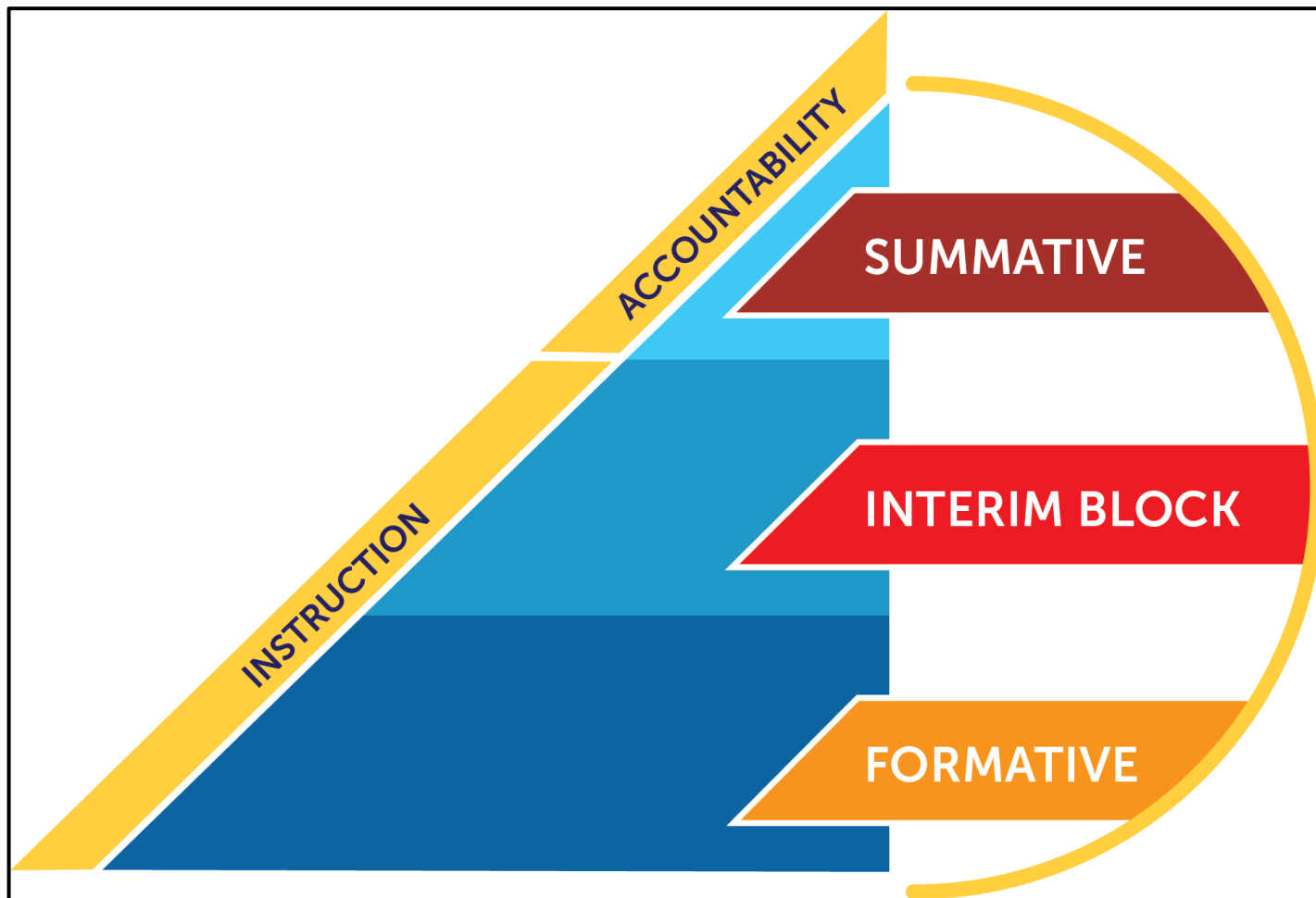
Sensible Assessment Webinars



<u>March 27, 2024</u> <u>3:00 p.m. – 4:00 p.m.</u> <u>NGSS Interims and District Sharing</u>	This virtual meeting will provide an update on the new item clusters and stand-alone items added to the NGSS Interims in December 2023. Additionally, participants will review resources and updated information to support the use of the NGSS Interims. Connecticut educators will share strategies that incorporate the NGSS Interim Assessments as tools to inform curriculum and instruction.
<u>April 24, 2024</u> <u>3:00 p.m. – 4:00 p.m.</u> <u>Smarter Balanced Interims and District Sharing</u>	This virtual meeting will review some of the resources and updated information available for the Smarter Balanced Interim Assessments. Connecticut educators will share strategies that incorporate the Smarter Balanced Interim Assessments as tools to inform curriculum and instruction.
<u>May 29, 2024</u> <u>3:00 p.m. – 4:00 p.m.</u> <u>Using Smarter Balanced/NGSS Interim Results and District Sharing</u>	This virtual meeting will present an overview of some of the ways that Smarter Balanced/NGSS Interim Assessment results can be analyzed using the Centralized Reporting System. Connecticut educators will share their experiences and provide tips on analyzing Smarter Balanced/NGSS Interim results using the Centralized Reporting System.



Sensible Assessment





Range of Assessments



Assessment Type	When	Purpose	Priority for Instruction
FORMATIVE	During instruction	<ul style="list-style-type: none"> Provides feedback so teachers may adjust instruction on-the-fly Provides feedback to students to help them know where they are, where they need to be, and what they need to do to reach mastery 	High
INTERIM BLOCK	Between learning cycles (i.e., end of unit, quarterly, etc.)	<ul style="list-style-type: none"> Measures domain-level performance Aligned to standards and includes high-quality test items like in the summative Designed to help classroom teachers evaluate student learning Informs curriculum and instruction 	Medium
SUMMATIVE	After year or course	<ul style="list-style-type: none"> Culminating evaluation Measures overall performance Aligned to standards Standardized and reliable Accountability 	Low



2024 NGSS Interim Assessments



Grades	Item Clusters	Stand-Alone Items
3 – 5	18	15
6 – 8	24	14
High School	24	14

All NGSS interim assessment items have been reviewed by committees of science educators and field tested with students at grades 5, 8 or 11. New items are added each year.



NGSS Interim Resources



Helpful resources for the NGSS Interim Assessments

Access at the [CSDE Interim Assessment web page](#)

2023-24 NGSS Interim Assessment Overview



This document provides an overview of the NGSS Interim Assessments and how to access resources that support their use with students in the classroom.

Provides basic information about the NGSS interims

Ways to Use the NGSS Interim Assessments



12/21/23

Provides suggestions and resources for effective ways to use the NGSS interims.



NGSS Interims



The NGSS Interim Assessments are based on a shared understanding that students learn science most effectively when they:

- are exploring **phenomena** or problems that are connected to real-world issues;
- using the science and engineering **practices** to apply their understanding of the **disciplinary core ideas** and **cross-cutting concepts**;
- engaged in **sense-making** by using the three dimensions in integrated ways; and
- are instructed and assessed in ways that account for the wide range of student backgrounds and needs to ensure **fairness and equity**.



STEM
TEACHING TOOL
#65

Using 3D interim assessments to support coherence, equity, and a shared understanding of learning

What Is The Issue?

A Framework for K–12 Science Education, NGSS writers, and [assessment experts](#) have put forth a vision focused on developing a “bottom up” system of assessments starting at the classroom level—when [integrated into instructional units](#). This helps teachers make ongoing instructional adjustments, and it would promote vertically coherent assessments at school-, district-, and state-levels. Interim assessments—that fall between formative and summative—can be a valuable part of a more balanced and comprehensive 3D assessment system.

WHY IT MATTERS TO YOU

- **Teachers**, collaborating with colleagues, should use interim assessments to analyze the extent to which their instruction is supporting student learning.
- **PD Providers** should provide learning experiences for teachers focused on using a system of assessment that includes the use of interim assessments.
- **School & District Leaders**, in collaboration with teachers, should use interim assessments to improve instructional or curriculum choices based on data analyzed across classes, classrooms, and schools.

Getting Started



This [practice brief](#) can be helpful in thinking about how to more effectively use interim assessments.

Use as a discussion starter among educators to think more carefully about the purposes of interim assessments.

Available at www.stemteachingtools.org

Recommended Actions You Can Take

- **Know what you want to measure before you begin.** Teams of teachers and local leaders should select assessment tasks based on the usefulness of the information they provide—not the topic or phenomenon featured.
- **Decide on the scale at which you’d like to aggregate the results from interim assessments** (e.g., across classes, schools, districts).
- **Start by implementing existing interim assessment tasks from high-quality sources, as opposed to creating new ones.** Here are good starting points that can be adapted into interim assessments: (a) Kentucky [Through Course Tasks](#), (b) [Next Generation Science Assessment](#), (c) [SNAP Assessments](#), (d) Wisconsin [Performance Tasks](#).
- **Deliberate on the outcomes that emerge from interim assessments and decide what they tell the team about student learning.** Discuss and take action to improve learning based on these outcomes/artifacts.

Reflection questions

- What shared model of learning guides curriculum, instruction, and interim assessments?
- Who will be involved in interim assessment teams?
- What is the purpose of your team’s work with interim assessments (e.g., supporting classroom instruction, providing insight into curriculum and learning across systems)?



Uses for NGSS Interims



The NGSS Interim Assessments can be used in a variety of ways including:

- 1. Provide students practice** with the types of items they will see on the state summative assessments.
- 2. Familiarize educators with NGSS assessments** that ask students to integrate the three dimensions to make sense of phenomena.
- 3. Inform and support student learning** by evaluating their performance on various aspects of the standards and help plan instruction.



Districts Sharing about Uses of NGSS Interims



Greenwich: Tara Fogel

Winchester: Rachael Manzer

Berlin: Adam Leonard



Greenwich Public Schools



NGSS and the Interim Assessment Blocks



Tara Fogel, K-8 Science Coordinator



Our approach

Grades 3-5

Grades 6-8

Professional Learning

Coordinator Support



Grades 3-5

Embedded in curriculum docs

Focus on exposure

Scaffolded expectations

Paper-based supports

Grades 6-8

Coming out of COVID

Grade 5 IABs utilized for 6th grade pulse check

Increased accountability

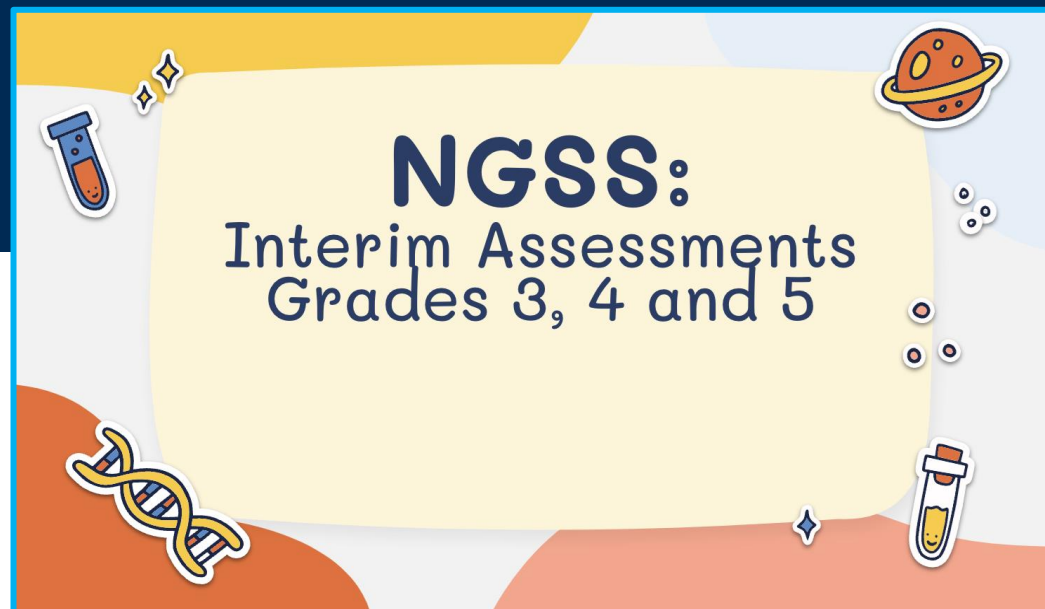
3-4 per school year

Used as teaching tool and assessment tool



Example:

90 minute
Professional Learning
Grades 3-5
Teachers



Interim Assessment Use

We DO NOT collect IAB Science Data to compare grades, students, teachers or schools.

These are best used as

1. Practice
2. Exposure
3. Platform Instruction
4. Comfortability with Question types

Exposure Goals

1-3 IABs in Grade 3
at least 1 log in

3-6 IABs in Grade 4
at least 2 log ins

4-8 IABs in Grade 5
at least 3 log ins, 1 per unit

Question Types:

Cluster Question

Type A:

Scroll Screen
Multiple Parts

Top Part: *The Information*

Phenomena, Figures, Maps, Simulation, Tables, Data, Information, Your Task, etc.

Bottom Part: *The Assessment*

Questions Generally A-E, Build a Graph, Tables w/ Blanks, MC, CER Drop Down etc.

Type B:

Split Screen; Multiple Parts

Left Side:

Phenomena, Figures, Maps Simulation Tables, Data, Information, Your Task etc.

Right Side:

Questions Generally A-E Graphs, Tables w/ Blanks, MC CER Drop Down, etc.

Single Item

- Uses novel phenomena
- Application based
- Often requires information synthesis

Information Often Includes:

- Figures
- Tables
- Graphs
- Images/Diagrams
- Short animations
- Maps

Assessment Often Includes:

- Single Multiple Choice
- CER Drop Down Paragraph
- Single Graph
- Single Table
- Check Boxes

These are not always “easier” and often require students to use content background knowledge in addition to new information presented.

Part B

An outline of the room is shown. Make a model by doing these things:

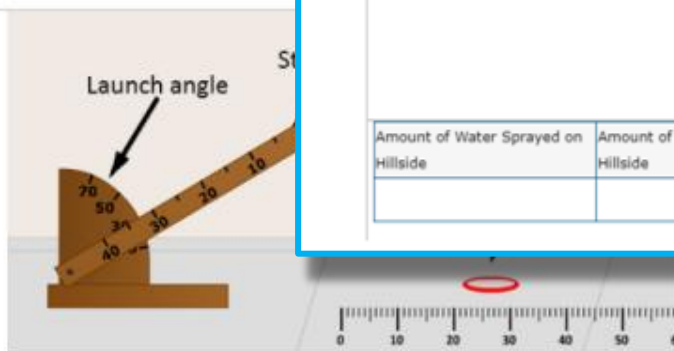
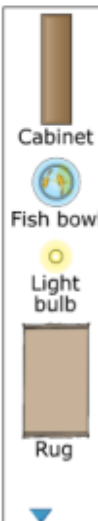
1. Arrange the parts of the model in the room so that the person wouldn't be able to see if the mirror were not there. Place the rectangle on the left and placing them in the model on the blue arrows at the top and bottom of the rectangle.
2. ...

Part A

Use the simulation to design and run a controlled experiment to determine what causes the gullies.

In the simulation, a rubber band is stretched backward and then launched forward and its total distance traveled are shown in the simulation.

- First, select the Stretch distance, in centimeters (cm), for the rubber band.
- Next, select the Launch angle in degrees ($^{\circ}$).
- Click Start to begin collecting data.
- You will be limited to **four** rows of data.
- Be sure your table contains data that provides evidence supporting your hypothesis.
- If you want to change your selections, click on the trash can icon to delete the data.



Stretch distance (cm) 10

Launch angle ($^{\circ}$) 10

Start

Stretch Distance (cm)	Launch Angle ($^{\circ}$)	Total Distance Traveled (cm)

Part A

This simulation models soil erosion on a hillside. Water is sprayed on the hillside, representing rainfall. A can collects all the dirty water that runs off. Next, the dirty water in the can is boiled so only soil is left in the container. Finally, the weight of the soil is measured, in grams (g).

Use the simulation to run experiments to determine what causes the gullies. You may run up to six trials.

- First, select the amount of water sprayed on the hillside.
- Next, select the amount of grass on the hillside.
- Then, click Start to run the experiment.
- If you need to change your selections, click on the trash can icon to delete the data. You can run another trial and generate new data.

Amount of Water Sprayed on Hillside

low

Amount of Grass on Hillside

none

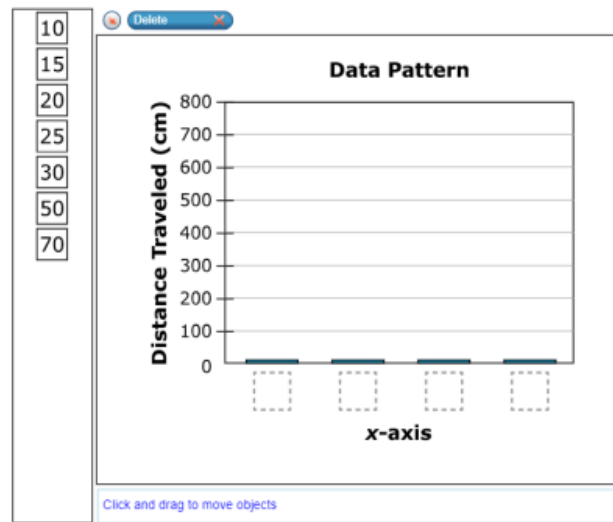
Start!

Amount of Water Sprayed on Hillside	Amount of Grass on Hillside	Final Weight of Soil (grams (g))

Create a bar graph that shows the pattern in the data you collected in part A. Round the data to the nearest hundred.

- Click on the blank box and select the x-axis Label for your graph.
- Next, place numbers into the blank boxes on the x-axis that show the data values you selected in the simulation.
- Then, select a point where the top of each bar should be to show the Distance Traveled by the rubber band.

x-axis Label:





	A	B	C	D	F	G	H	I
1	Answer Keys	IAB List: Grade 5 NGSS Interims						
2	IAB Name	Difficulty	Cluster?	Question Type	Content Focus	Phenomena	Grade	Unit
3	Earth and Space Science - PE 3-ESS2-1 B	2	Stand Alone	Data Analysis, Application	Climate and Weather Patterns	Seattle Rain	3	Climate
4	Earth and Space Science - PE 3-ESS2-1 A	4	Cluster	Data Analysis, Application	Climate and Weather Patterns	AZ Climate	3	Climate
5	Physical Science - PE 3-PS2-1 B	2	Stand Alone	Drop Down	Force and Motion	Cart Movement	3	Force/Motion
6	Physical Science - PE 3-PS2-2	5	Cluster	Simulation, Data Compilation	Force and Motion	Rubber Band Movement	3	Force/Motion
7	Life Science - PE 3-LS4-1	4	Cluster	Claim Evidence Reasoning	Geology and Earth's Materials	Fossils found in AZ	3	Plant/Animal Adapt.
8	Life Science - PE 3-LS4-3	2	Stand Alone	Drop Down	Animal Adaptation	Toads in AZ	3	Plant/Animal Adapt.
9	Life Science - PE 3-LS3-1	4	Cluster	Data Analysis and Application	Heredity of Traits	Chicken Offspring Feathers	3	Plant/Animal Adapt.
10	Life Science - PE 4-LS1-1	2	Stand Alone	Drop Down	Animal Mating	Frigate Birds	4	Animal Behavior
11	Earth and Space Science - PE 4-ESS3-1	2	Stand Alone	Drop Down CER	Energy Types	Wind Turbine	4	Animal Behavior
12	Earth and Space Science - PE 4-ESS3-2	2	Stand Alone	Drop Down CER	Natural Hazards	Tornado Proofing House	4	Climate
13	Earth and Space Science - PE 4-ESS1-1	3	Stand Alone	Drop Down CER	Fossil Record and Rock Layers	Fossil Rock Layers	4	Earth's Mat.
14	Earth and Space Science - PE 4-ESS2-1	5	Cluster	Simulation, Data Compilation	Weathering and Erosion	Vermont Hillside	4	Earth's Mat.
15	Physical Science - PE 4-PS3-4	4	Cluster	Modeling, CER, Video	Circuits, Energy Transformation	Circuit Doorbell	4	Elect/Mag
16	Physical Science - PE 4-PS3-3	1	Stand Alone	Multiple Choice	Energy Transformation	Sound Soccer Ball	4	Force/Motion
17	Life Science - PE 4-LS1-2	3	Cluster	Modeling	Senses and Stimuli	Dog Head Tilt	4	Waves
18	Physical Science - PE 4-PS4-2	4	Cluster	Modeling w/ Clicks	Light and Reflections	Cat Mirror Light	4	Waves
19	Physical Science - PE 4-PS4-1	5	Cluster	Simulation, Data Compilation	Waves	Boat Wave Tank	4	Waves
20	Physical Science - PE 4-PS4-3	5	Cluster	Video, Data Compilation	Information Transfer	Light Communication	4	Waves
21	Physical Science - PE 5-PS1-2 B	2	Stand Alone	Graphing	Chemical Reactions	Steel Wool	5	Applied Chem
22	Physical Science - PE 5-PS1-2 A	5	Cluster	Simulation, Data Compilation	Chemical Reactions	Sugar Dissolving	5	Applied Chem
23	Physical Science - PE 5-PS1-4	5	Stand Alone	Simulation, Data Compilation	Substances	Balloon w/ Substances	5	Applied Chem
24	Life Science - PE 5-LS2-1	4	Cluster	Modeling, Data Analysis, Application	Survival, Cycling of Energy	CO2 in Terrariums	5	Energy/Eco System
25	Earth and Space Science - PE 5-ESS2-2	4	Cluster	Data Analysis and Application	Water Cycle	Water in Chesapeake Bay	5	Energy/Eco System
26	Physical Science - PE 5-PS2-1	4	Cluster	CER, Video	Gravitation Force	Dropping Objects	5	Grav/Force/Space
27	Earth and Space Science - PE 5-ESS1-2 B	3	Stand Alone	Multiple Choice Data Analysis	Earth/Sun/Moon	Moon in Sky	5	Grav/Force/Space
28	Earth and Space Science - PE 5-ESS1-2 1	4	Cluster	Data Analysis, Application	Earth/Sun/Moon	Constellation Motion	5	Grav/Force/Space



Teacher Tip #1: Intentional Talk



**Get familiar with and
work to incorporate
Academic Terms and
Scientific Language
Used on the
NGSS Assessment and
IABs**

Analyze	Fair Test	Model
Animation	Faster	North
Bar Graph	Figure	Pattern
Classify	Generate	Region
Conclusion	Grams	Relative
Control	Graph	Shallow
Create	Height	Simulation
Data	Identify	Slower
Deep	Interact	South
Depth	Investigate	Speed
Determine	Line Graph	Supports
Develop	Liters	Table
Directional	Mass	Trend
Distance	Measure	Trial
East	Milliliters	Volume
Evidence		West



Teacher Tip #2: How to Use IABs in Class

Exposure Goals

1-3 IABs in Grade 3

3-6 IABs in Grade 4

4-8 IABs in Grade 5

Answer Keys

Think-A-Loud

Explain the platform, tools and general approach.

The goal here is to model determination, grit, and explicitly provided strategies for attacking it.

How to Guided

Using Graphic Organizer and Student Thinking Sheets

In pairs!

1 iPad, 2 Students

Competition

Who can justify their solution with the most evidence?

Let students share aloud and refute each other's ideas.

Student Choice

Assign a few, let students choose one to play with.

Groups

3 or 4 students, working together on their iPads to discuss, explain and share ideas.

Traditional Practice

Grade 4: At Least Once.

Grade 5: Two - Four Times.

*Can be with IABs they have already seen!

Skill Focused

Do two of the same type back to back to work on the skill, rather than the content.



Teacher Tip #3: Off-screen Metacognition

Name: _____ Date: _____

Interim Assessment: _____

STEP 1 Getting to know my assessment:

1. What is the assessment about? _____
2. How many "Parts" or Questions are there? _____
3. What information is provided? Check all that you see:
 - ☐ A data table with numbers
 - ☐ A graph with (circle one) lines or bars
 - ☐ A map
 - ☐ A short clip to watch
 - ☐ Paragraphs of text to read
 - ☐ A digital lab simulation to run trials, and collect data with
 - ☐ Other: _____
4. What type of questions are there? Check all that y
 - ☐ Multiple Choice
 - ☐ Drop down
 - ☐ Order of event
 - ☐ Check boxes
 - ☐ Create a graph (dot, bar, or line)
 - ☐ Write in a table
 - ☐ Draw on a model with symbols
 - ☐ Other: _____

STEP 2 What do I need

- If the assessment is multi-part, what is Your Task.
- If the assessment is 1-part, what do you need to do?

Answer here: _____

Interim Assessment: _____

STEP 3 Help me! I am stuck...

1. List any words you do not know here:

STEP 4 How do I...? Tips to Remember!

- You may use the highlight tool to remind yourself of **your task**.
- Maps, figures and tables use **titles** to explain what you are looking at. **Look closely at these!**
- **Do the Parts in order.** You will need information from Part A to do Part B and so on.
- When we "run a fair test", we only change one *variable* at a time.

What tips would you give a friend:

1. _____

2. _____



Grades 6-8:

Curriculum Embedded

Teacher Expectations

Student Supports

Unit Progression

1. Unit Launch: Teacher Choice
2. Module 1: The Fossil Record and Geologic Time Scale (ESS1-4, LS4-1)
3. Interim Practice Assessment: History of Earth 1
4. Module 2: Evidence of Change Over Time
5. Formative Assessment: SPA - A Fossil
6. Module 3: Natural Selection (LS4-4)
7. Interim Practice Assessment: Natural Selection
8. Socratic Seminar Launch - Should We?
9. Module 4: Human Intervention (LS4-5)
10. Interim Practice Assessment: Growth, Development and Reproduction of Organisms
11. Project Benchmark 2: Prep for Social Studies
12. Socratic Seminar!
13. Unit Reflection: Habits of the Mind

7

8

9

17

SDE

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10. Interim Practice Assessment: Growth, Development and Reproduction of Organisms

Students practice NGSS style questions while navigating the digital testing platform. While engaging in the process students become more familiar with NGSS style questions, see real world application of content, and challenge their data literacy skills. This is a required formative assessment and goes in the gradebook.

DURATION

One 45-minute period

NGSS ASSESSMENT PRACTICE OPTIONS

Interim Middle School Life Science - Growth, Development, and Reproduction of Organisms 2: LS3-1 (Flowers and Pollinators)

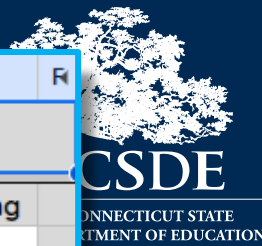
Instructions: Retrieving

[Complete Instructions for Assigning NGSS IABs](#)

[Teacher Directions to See Student Results](#)

ANSWER KEY

[Grade 8 NGSS IABs Answer Key](#)



	A	B	C	D	E	F
1	IABs: NGSS Interim Assessment Pacing					
2	Grade	Interim Assessment	Topic/Phenom	Unit	Apprx Pacing	
3	Grade 6	Structure, Function and Information Processing 1: LS 1-3	Heart Rate/Walking	1	Oct/Nov	
4	Grade 6	Structure, Function and Information Processing 2: LS 1-8	Startle Response	1	Nov/Dec	
5	Grade 6	Growth, Development and Reproduction of Organisms 1: LS 3-2	Jellyfish Aquarium	2	Jan/Feb	
6	Grade 6	Weather and Climate: ESS 2-5	Nashville Maps	3	Mar/Apr	
7	Grade 6	Energy: PS 3-3	Thermal Windows	3	Mar/Apr	
8	Grade 6	Human Impacts ESS 3-3	Bear Glacier	4	May/ Jun	
9						
10	Grade	Interim Assessment	Topic/Phenom	Unit	Apprx Pacing	
11	Grade 7	Structure and Property of Matter: 1 PS 1-4	Tea Kettle	1	Oct/Nov	
12	Grade 7	Chemical Reactions: PS 1-5	Chemical Precipitate	1	Oct/Nov	
13	Grade 7	Independent Relationships in Ecosystems LS 2-2	Hippo Ecosystems	2	Jan/Feb	
14	Grade 7	Matter and Energy in Organisms and Ecosystems: LS 1-7	Cell Fuel Food	2	Jan/Feb	
15	Grade 7	History of Earth: ESS 2-1	Mountain Weathering/Energy	3	Mar/Apr	
16	Grade 7	Earth's Systems: ESS 2-1	Mountain Weathering/Energy	4	Apr/May	
17						
18	Grade	Interim Assessment	Topic/Phenom	Unit	Apprx Pacing	
19	Grade 8	Forces and Interactions: PS 2-2	Box Pull/Friction	1	Oct/Nov	
20	Grade 8	Space Systems 1: ESS 1-3	Mars Mountain	2	Jan/Feb	
21	Grade 8	Space Systems 2: ESS 1-2	Comet Orbits	2	Jan/Feb	
22	Grade 8	History of Earth 1: ESS 1-4	Montana Fossil Record	3	Mar/Apr	
23	Grade 8	Natural Selection and Adaptations 1: LS 4-4	Mice Colors	3	Mar/Apr	
24	Grade 8	Natural Selection and Adaptations 2: LS 4-6	Bacteria/Petri Dishes	3	Mar/Apr	
25	Grade 8	Growth, Development and Reproduction of Organisms 2: LS 3-1	Pollinators/Flowers	3	Mar/Apr	
26	Additional IAB's before NGSS or Prep					
27	Grade 8	Waves and Electromagnetic Radiation 2: PS 4-1	Guitar Strings	4	Flexible	



Grades 5 & 8 Month of Test Refreshers

Collapsing Sides!


Questions: 1 Interim Middle School Earth and Space Science - Human Impacts: ESS3-3 GUEST (SSID: GUEST) TRAZN-E487-16

Back Next Data Pause

An area of Alaska that was covered by Bear Glacier in 1909 is now a meadow and a lake.

Figure 1 shows how the area around Bear Glacier has changed over time.

Figure 1. Images of Bear Glacier



1920


Which statement describes the changes in Bear Glacier?

- A Bear Glacier is shrinking at a steady rate.
- B Bear Glacier is maintaining a constant size.
- C Bear Glacier is shrinking at a decreasing rate.
- D Bear Glacier is shrinking at an increasing rate.

Part B

From the data provided, use the Connect Line button to create a line graph of the global temperature anomaly from 1955 to 2015.

Global Temperature Anomaly (°F)



Read each question carefully

Questions: 1 Interim Middle School Earth and Space Science - Human Impacts: ESS3-3 GUEST (SSID: GUEST) TRAZN-E78B-17

Back Next Data Pause

or a glacier is called glacial retreat. Table 1 shows the amount that Bear Glacier has retreated over time. Glaciers shrink when there is less snowfall or when temperatures rise and cause melting.

Table 1. Bear Glacier Retreat

Dates of Measurement	Time Span (years)	Amount of Glacial Retreat (kilometers)
1950-1990	40	1.6
1990-2004	14	2.0
2000-2007	7	3.2

Table 2 shows how the yearly global temperature varies over time. The "temperature anomaly" is the difference from the average temperature. A positive number means the

Part F

Select the **two pieces of data** that show a correlation that **most strongly** suggests a relationship between human activity and the shrinking of Bear Glacier.

- ☐ the change in the rate of glacial retreat
- ☐ the changes in temperature from year to year
- ☐ the annual advance and retreat of Bear Glacier
- ☐ the types of human activity that release greenhouse gases
- ☐ the change in the amount of carbon dioxide in the atmosphere

Part G

Which prediction describes what will happen to Bear Glacier in the next 100 years if there is no change in the rate of greenhouse gas release?

- A It will move to a new location.
- B It will stay the same size it is now.

Go back to info left side for supporting data/evidence

Questions: 1 Interim Middle School Earth and Space Science - Human Impacts: ESS3-3 GUEST (SSID: GUEST) TRAZN-E78B-17

Back Next Data Pause

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2000-2007	7	3.2

Table 2 shows how the yearly global temperature varies over time. The "temperature anomaly" is the difference from the average temperature. A positive number means the temperature was warmer than average and a negative number means the temperature was cooler than average.

Part A

Which statement describes the changes in Bear Glacier over time?

- A Bear Glacier is shrinking at a steady rate.
- B Bear Glacier is maintaining a constant size.
- C Bear Glacier is shrinking at a decreasing rate.
- D Bear Glacier is shrinking at an increasing rate.

Part B

From the data provided, use the Connect Line button to create a line graph of the global temperature anomaly from 1955 to 2015.

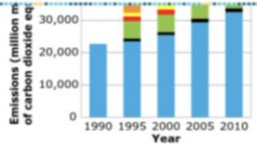
Global Temperature Anomaly

Read to the bottom to find Your Task

Questions: 1 Interim Middle School Earth and Space Science - Human Impacts: ESS3-3 GUEST (SSID: GUEST) TRAZN-E78B-17

Back Next Data Pause

Emissions (million metric tons of carbon dioxide eq)



Key

- Land-use change and forestry
- Waste
- Industrial processes
- Agriculture
- International transport
- Energy

Image courtesy of the Environmental Protection Agency

Your Task

In the questions that follow, you will analyze the data to determine why the size of Bear Glacier is decreasing.

Read carefully & highlight

Questions: 1 Interim Middle School Earth and Space Science - Human Impacts: ESS3-3 GUEST (SSID: GUEST) TRAZN-E78B-17

Back Next Data Pause

Photo courtesy of the United States Geological Survey

2005

A glacier is a large mass of ice that forms when snow is pressed into ice over long periods of time. The shrinking of a glacier is called glacial retreat. Table 1 shows the amount that Bear Glacier has retreated over time. Glaciers shrink when there is less snowfall or when temperatures rise and cause melting.

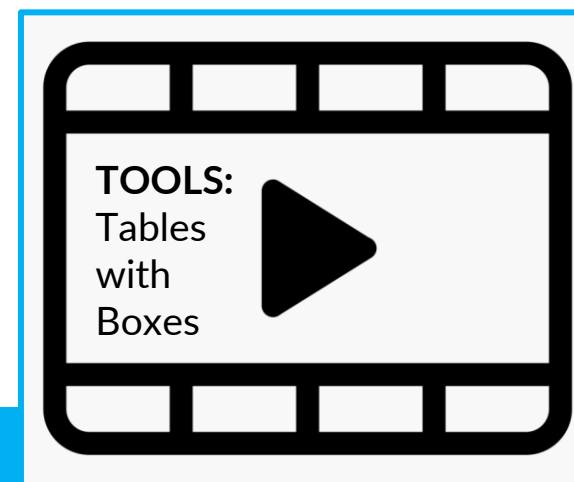
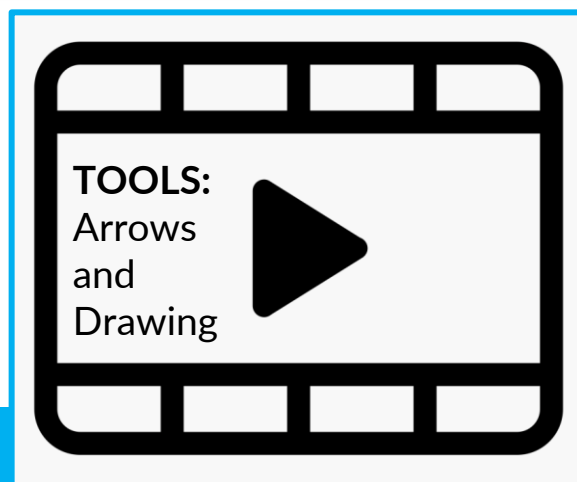
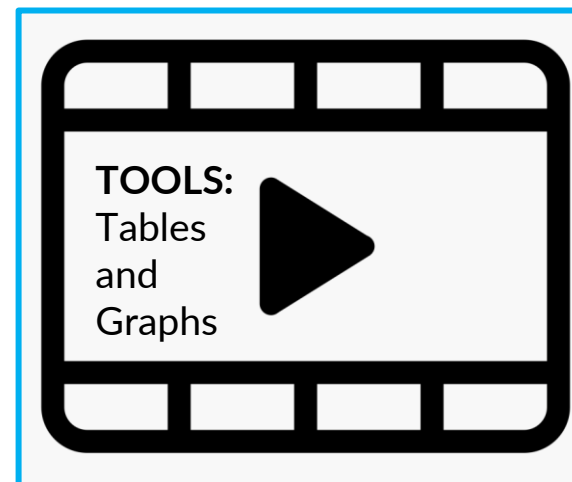
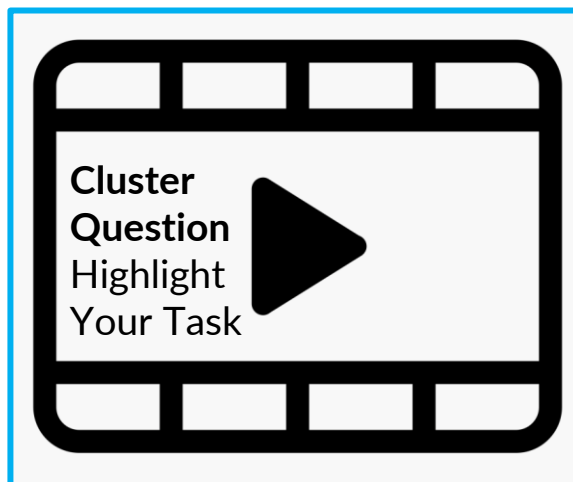
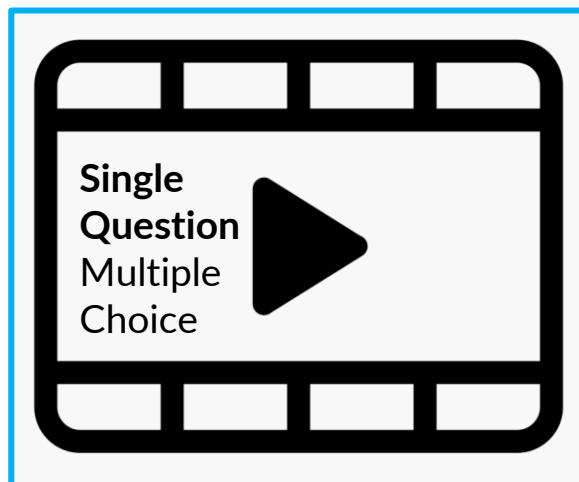
Table 1 shows the glacial retreat over time.

Table 1. Bear Glacier Retreat

Dates of Measurement	Time Span (years)	Amount of Glacial Retreat (kilometers)
1950-1990	40	1.6
1990-2004	14	2.0
2000-2007	7	3.2



Test Tools: Video Examples





Sticky spots...





Successes!





Greenwich Public Schools



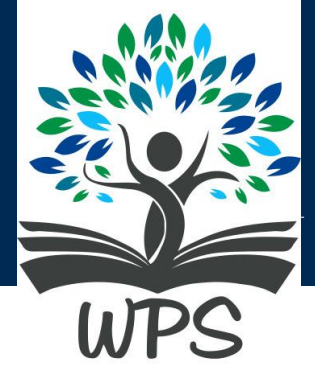
tara_fogel@greenwich.k12.ct.us

Come visit our district!

We'd love to share what is working,
and what we are
still working through.



Tara Fogel, K-8 Science Coordinator



NGSS Interim Assessments

**Winchester Public Schools
March 2024**



Ongoing Teacher Professional Development



- Essential Elements Of NGSS Aligned Assessments
- Familiarization Of NGSS Interims
- Reviewed And Selected Interims For Use At Various Grade Levels
- Analyze Assessments

Science Task Prescreen

Task Title _____ Grade _____ Date _____

SEP: _____ DCI: _____ CCC: _____

Task Purpose: _____

Before you begin: Complete the task as a student would. Then, consider any support materials provided to teachers or students, such as contextual information about the task and answer keys/rubrics.

Prescreen: Answer the following high-level questions to identify any major red flags (🚩) in your task. If you find one or more red flags, consider the purpose of the task and the evidence gathered to determine whether the task warrants a deeper dive.

Question	Yes	No
1. Is there a phenomenon or problem driving the task ?	<input type="checkbox"/>	<input checked="" type="checkbox"/> 🚩
2. Can the majority of the task be answered without using information provided by the task scenario?	<input checked="" type="checkbox"/> 🚩	<input type="checkbox"/>
3. Can significant portions of the task be answered successfully by using rote knowledge (e.g., definitions, prescriptive or memorized procedure)?	<input checked="" type="checkbox"/> 🚩	<input type="checkbox"/>
4. Does the majority of the task require students to use reasoning to successfully complete the task?	<input type="checkbox"/>	<input checked="" type="checkbox"/> 🚩
5. Does the task require students to use some understanding of disciplinary core ideas to successfully complete the task?	<input type="checkbox"/>	<input checked="" type="checkbox"/> 🚩
6. Do students have to use at least one science and engineering practice to successfully complete the task?	<input type="checkbox"/>	<input checked="" type="checkbox"/> 🚩
7. Are the dimensions assessed separately in the majority of the task?	<input checked="" type="checkbox"/> 🚩	<input type="checkbox"/>
8. Is the task coherent and comprehensible from the student perspective?	<input type="checkbox"/>	<input checked="" type="checkbox"/> 🚩

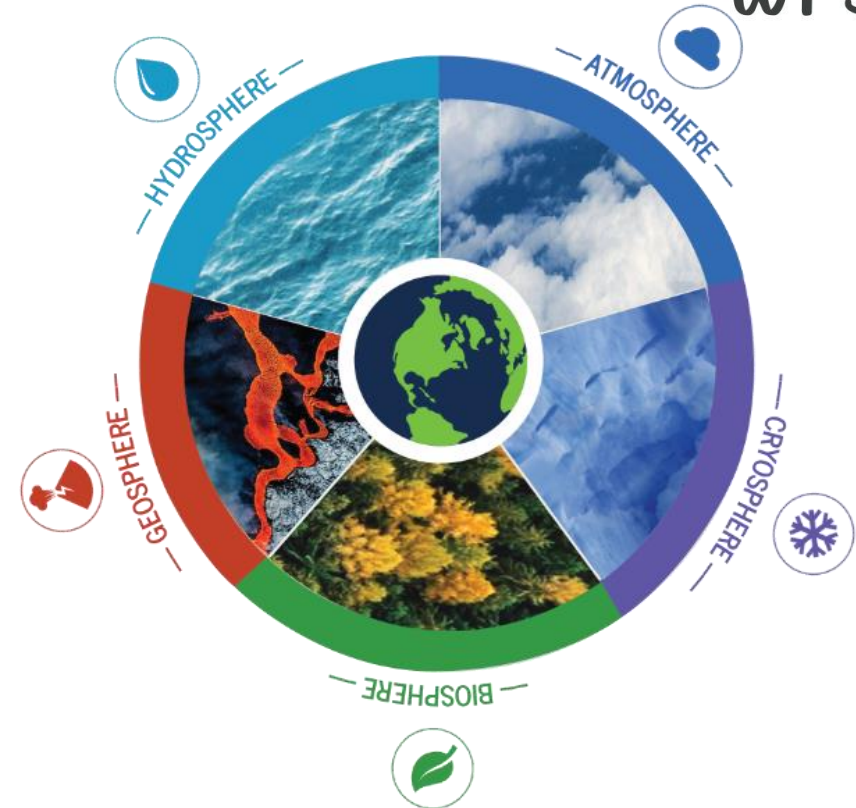
https://nextgenscience.org/sites/default/files/resource/files/Achieve%20Task%20PreScreeners_Final_9.21.18.pdf



Integration Into Units of Study



- **Goal: Natural Part of Instruction**
- **Purpose**
- **Part Of Our Assessment System**



<https://mydasdata.larc.nasa.gov/basic-page/about-earth-system-background-information>



How Do We Use Interims?



- **Depends On Purpose**
- **Embedded Into Instruction**
- **Multiple Modes of Engagement**

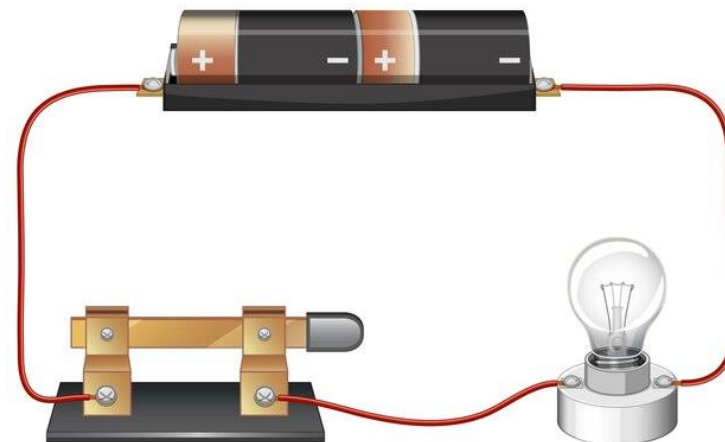




Some Ways We Use Interims in Classroom



- **Small Groups: Use Productive Discourse To Decide On Right Answers And Give Rationale For Wrong Answers**
- **Conduct Hands-on Investigations, or Engineering Design Challenges Based On Phenomena Found In Interims**
- **Build Lessons Around the Interim Phenomena To Show Additional Real-World Connections**
- **Use As a Launch for Students to Do Own Research**
- **Do Questions Together and Discuss**
- **Assess Individual Student and/or Group Learning**





Berlin Public Schools Use of Interim Assessments



Adam Leonard

Science Department Supervisor
Grades 6-12

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Gr. 11 2023 NGSS DRG Comparison



2022 = 60% of Students
at Level 3 or 4.

2023 = 72% of Students
at Level 3 or 4.

12% *increase* through use
of Interim Assessments

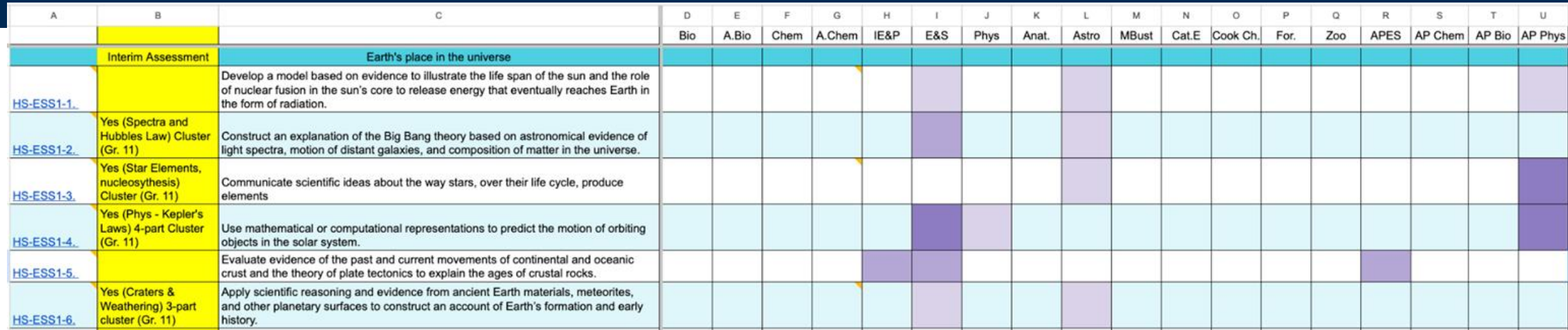
District	# of Students Tested	Participation Rate	# of Students at Level 3 & 4	% of Students at Level 3 & 4
Stonington	130	94.9	106	81.5
Berlin	190	98.4	136	71.6
East Granby	49	100	34	69.4
Bethel	239	97.2	164	68.6
East Lyme	231	95.5	152	65.8
Rocky Hill	173	95.1	113	65.3
North Haven	228	98.3	146	64
Southington	468	97.5	297	63.5
Newington	308	96	184	59.7
Ledyard	183	97.9	108	59
Wallingford	369	95.1	217	58.8
East Hampton	142	97.3	83	58.5
Colchester	154	95.1	89	57.8
Waterford	167	97.7	96	57.5
Cromwell	124	87.9	70	56.9
Old Saybrook	81	100	46	56.8
Clinton	118	97.5	66	55.9
Shelton	294	98.7	159	54.1
Milford	396	96.6	187	47.2
Watertown	176	95.1	83	47.2
Windsor	282	95.6	133	47.2
Branford	204	95.8	90	44.3
Wethersfield	261	98.5	112	43.2
New Milford	289	96.7	118	40.8



The last few years...



- Two years ago - role changed from supervisor for grades 9-12 to grades 6-12.
- Formed the secondary vertical team and built on the work at the HS level.
- During PD Time:
 - Developed curriculum matrix and conducted a curriculum audit with all secondary science teachers.
 - Aligned the skills for each grade level/course and developed/revised common assessments
 - Evaluated level of degree that each standard was taught (see color coding on next slide)
 - Aligned the Interim Assessments with the units of instruction for each course.

[illegible]



Incorporation of Interim Assessments into TEVAL



- Implemented 2 years ago
- IAGD 1:
 - “Students’ average performance of NGSS Interim Assessments will demonstrate growth.”
 - Teachers administer four (4) or more in a school year
 - Goal is to show student growth, build stamina, and familiarize students with the platform as well as embedded tools.
- IAGD 2
 - “Students will demonstrate growth and/or meet the goal of (selected bullet(s)) on six or more classroom experiences/assessments.” - bullets were based on the selected SEP(s).
 - Focus on SEP(s) based on the historical and data from the previous year.



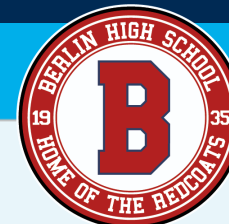
McGee Middle School



Science and Engineering Practices (SEP)							
Science and Engineering Practices (SEP)							
CE ⓘ		DM ⓘ		GI ⓘ		UM ⓘ	
Proficient? ⓘ	Weak or Strong? ⓘ	Proficient? ⓘ	Weak or Strong? ⓘ	Proficient? ⓘ	Weak or Strong? ⓘ	Proficient? ⓘ	Weak or Strong? ⓘ
☐	=	☐	—	☐	=	☐	=
☐	=	☐	—	☐	=	☐	=
☐	=	☐	—	☐	=	☐	=















Berlin High School



Science and Engineering Practices (SEP)

Science and Engineering Practices (SEP)

CE 		DM 		GI 		UM 	
Proficient? 	Weak or Strong? 	Proficient? 	Weak or Strong? 	Proficient? 	Weak or Strong? 	Proficient? 	Weak or Strong? 
✓	=	✓	=	✓	=	✓	=
✓	=	✓	=	✓	=	✓	=
✓	=	✓	=	✓	=	✓	=



Use in classroom is scaffolded



- Teacher models with class
- Students take with a partner as practice - real-time problem solving and discussion amongst students.
- Students complete individually
- Teachers provide scores to students to track their own progress
- Familiarizes teachers and students with the testing platform



Challenges with Interim Assessments



- Getting all students on to the school browser (1x1 district)
 - An increasing number of students have their own devices
- Finding Interim Assessments with full alignment to curriculum



Next Steps



- Align SEPs to curriculum matrix
- Identify interims that were *actually* administered in each grade band
- Continue to develop our own Interim Assessment type items for summative assessments (Schoology).
- Continue to utilize interactive simulations for modeling and data analysis (Gizmos).
- Continuous PD - Secondary Science Vertical Team



Questions for our presenters

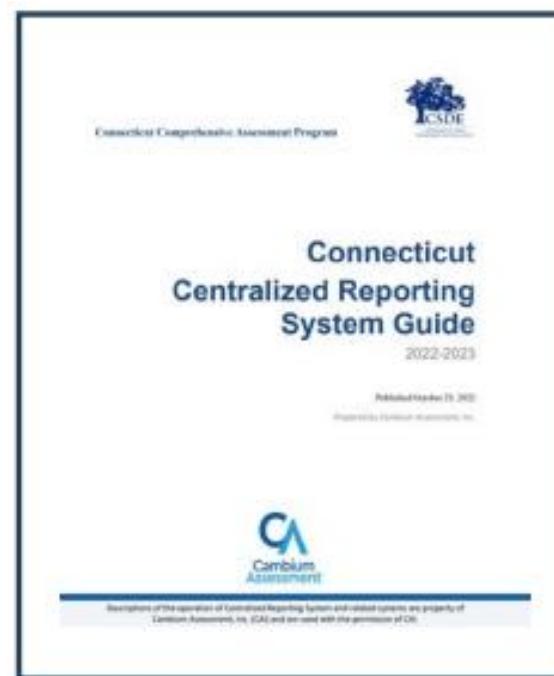




Additional resources for the NGSS Interim Assessments



For NGSS Interim administration



For information about NGSS
Interim results



A list of available science assessments can be found [here](#).

NGSS Assessment Tools



Stanford NGSS Assessment Project



Thank You



Please reach out to us if you have any questions

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860-713-6860

Jeff Greig, NGSS Assessments

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