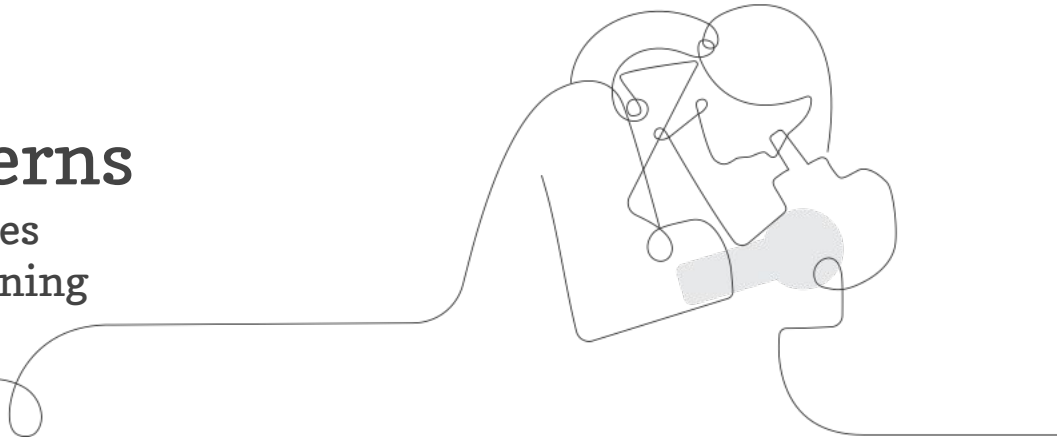
Amplify Science



Grade 6: Weather Patterns

Applying Reading and Writing Strategies to support Claims, Evidence, and Reasoning within the Amplify Science classroom.

School/District Name
Date
Presented by Your Name

Welcome to Amplify Science!

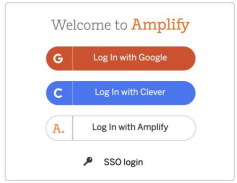
Do Now: Log In

Log In with Amplify

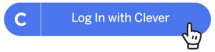
K–8 Classroom Teachers | Clever Login

1. Go to **learning.amplify.com**

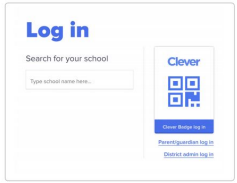
   Reminders:
   - Use the latest version of Safari or Chrome
   - Supported devices: iPad 5 or more recent, MacBooks, Windows laptops or desktops, and Chromebooks
   - **Pro Tip:** Bookmark this url in your browser



2. Select **Log In with Clever**



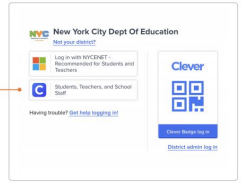
3. Search for and **select your school by name or DBN** (ex. 00M000 - PS/IS School Name)



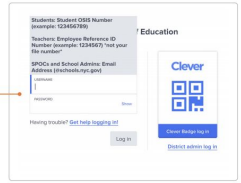
AmplifyScience

K–8 Classroom Teachers | Clever Login

4. Select **Students, Teachers, and School Staff**



5. Enter your district **Employee ID number** in both **username** and **password** fields

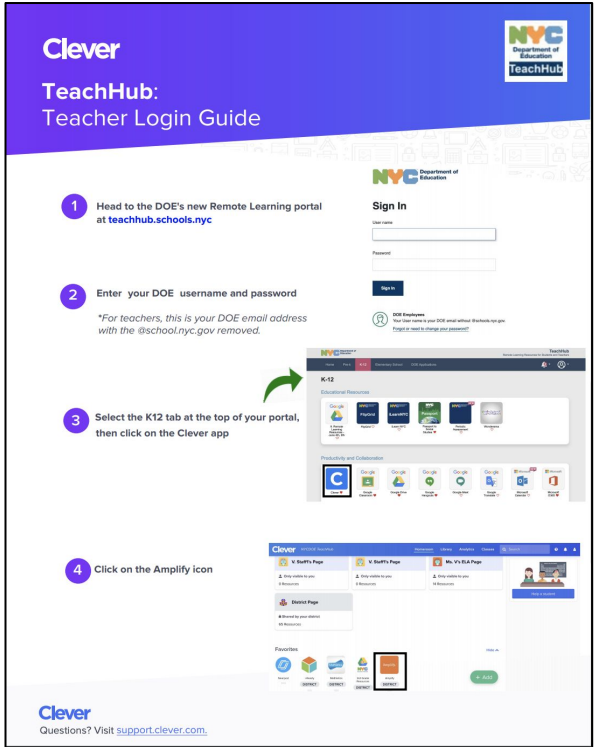


6. Click **Log In**

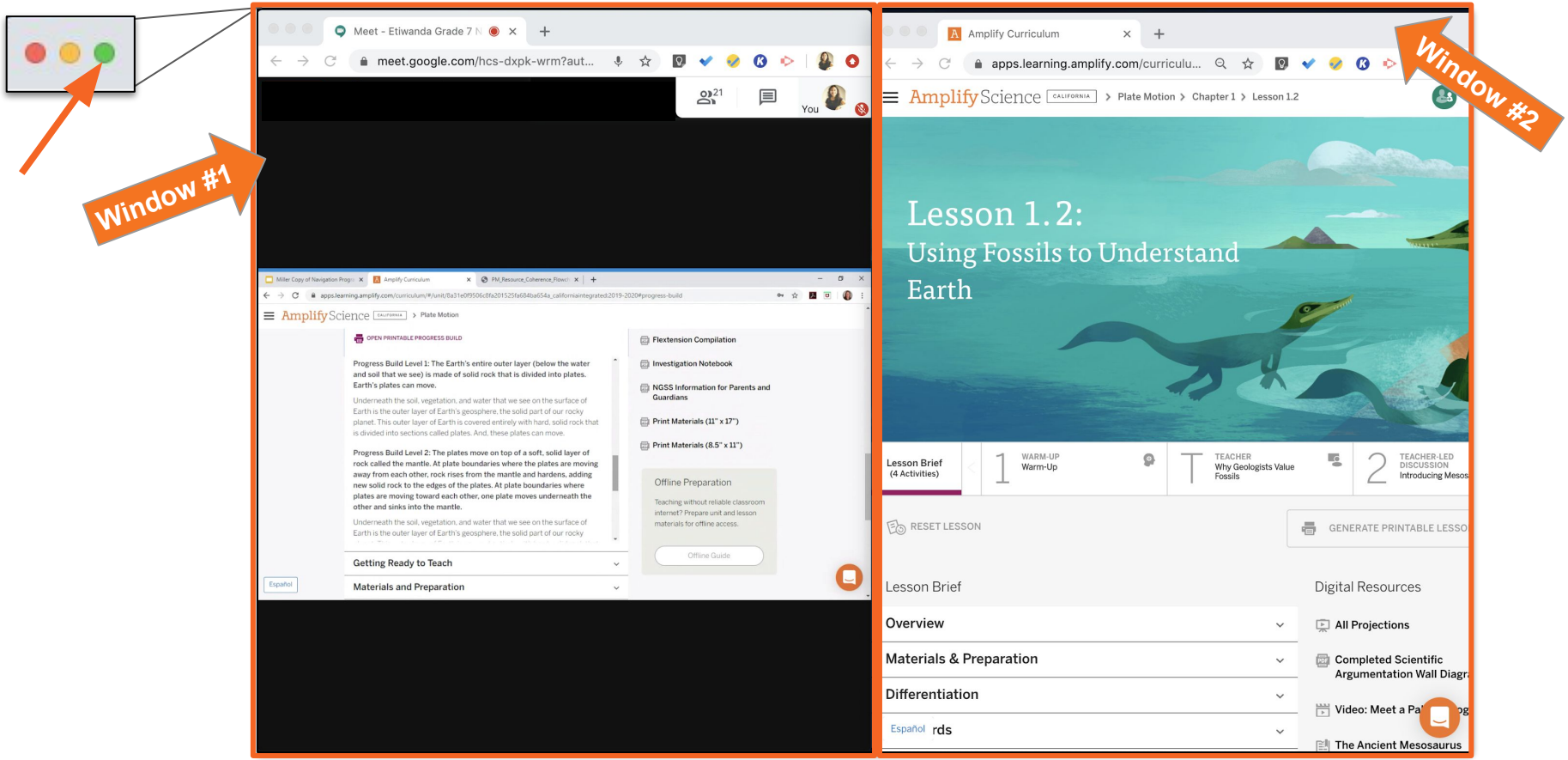
Email help@amplify.com or call (800)823-1969 for additional support.

AmplifyScience

Log in with TeachHUB



Use two windows for today's webinar



Remote Professional Learning Norms

Take some time to orient yourself to the platform

- *"Where's the chat box? What are these squares at the top of my screen?, where's the mute button?"*

Mute your microphone to reduce background noise unless sharing with the group

The chat box is available for posting questions or responses to during the training

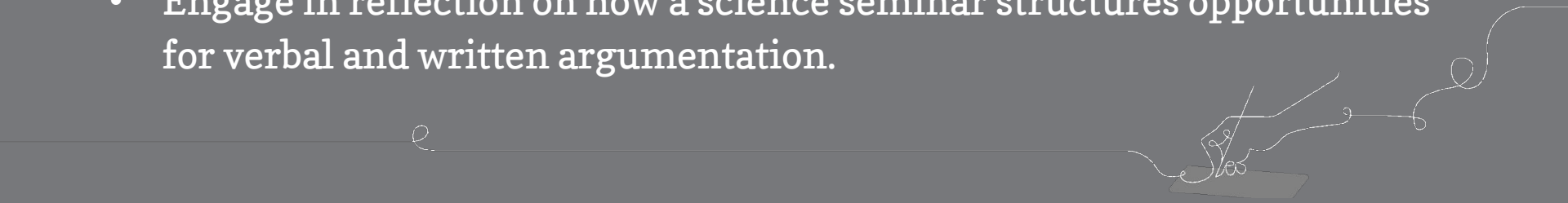
Make sure you have a note-catcher present

Engage at your comfort level - chat, ask questions, discuss, share!

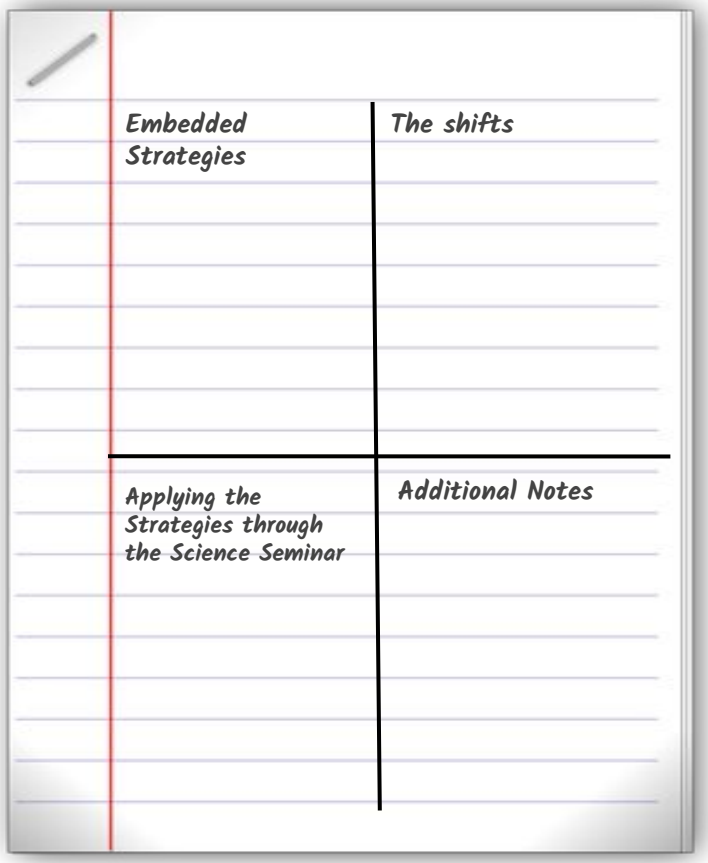
Objectives:

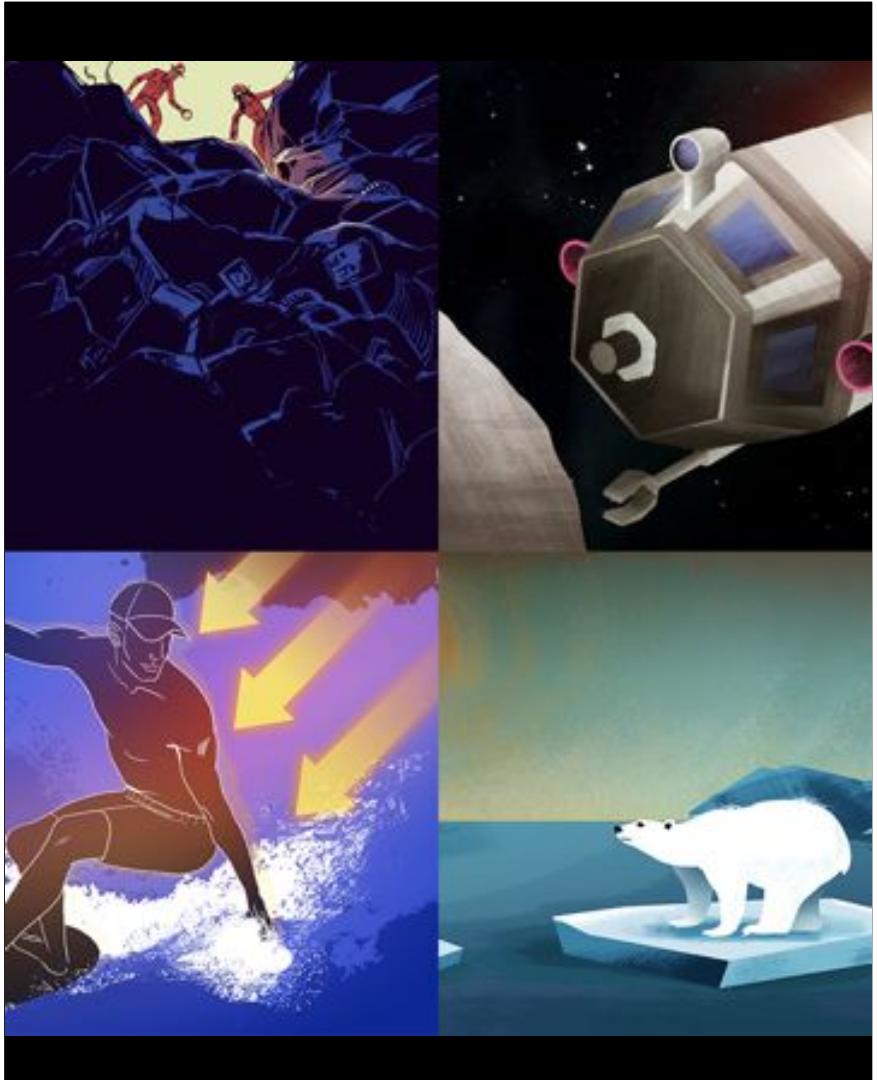
By the end of this workshop, you will be able to:

- Focus on the shifts in emphasizing the Science and Engineering practices which require students to read and write like scientists.
- Identify embedded strategies for explicit literacy support.
- Understand how these strategies help students make and evaluate claims, gather evidence, and justify arguments with relevant reasoning.
- Engage in reflection on how a science seminar structures opportunities for verbal and written argumentation.



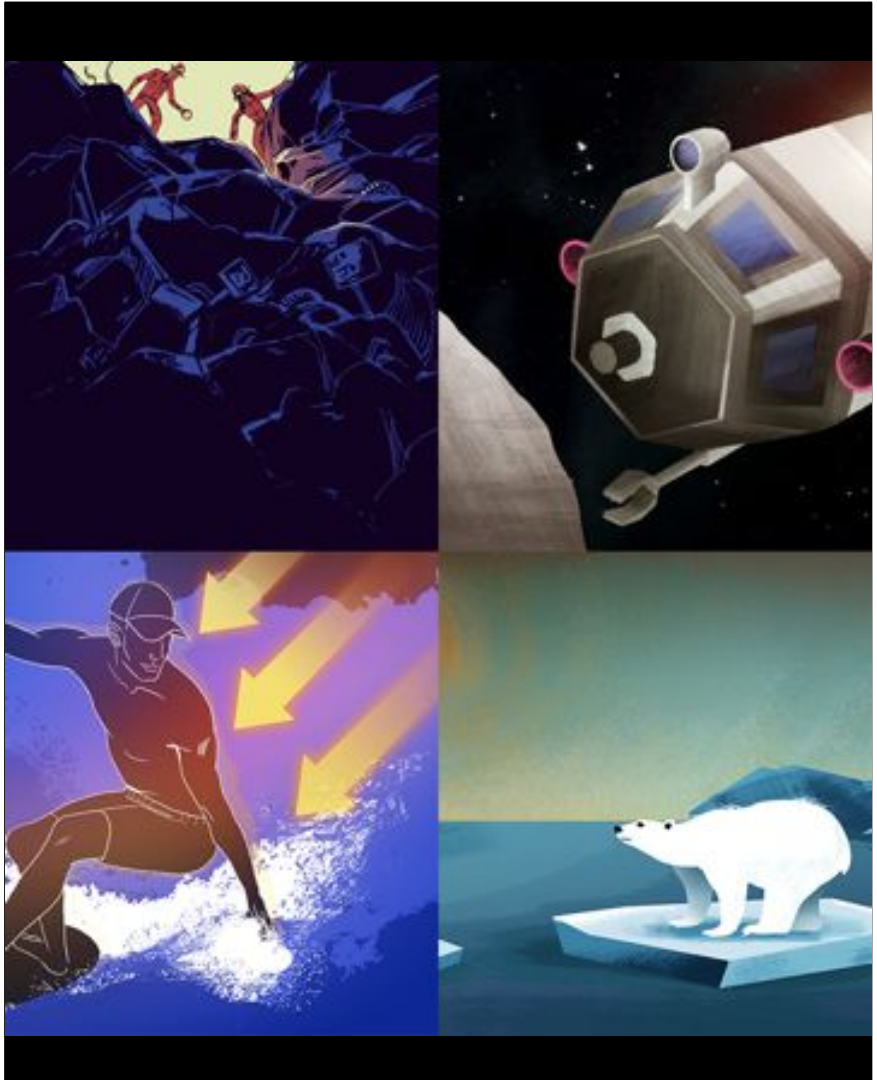
Capturing key takeaways!





Plan for the day

- Framing the day
  - Welcome and introductions
- Shifts in Science Instruction
  - Revisiting the Amplify Science approach
  - Revisiting Resources
  - Science and Engineering practices
- Science and Literacy
  - Embedded literacy supports
  - Embedded literacy strategies
- Applying the Strategies through the Science Seminar
  - Evaluating claims, gathering evidence, and justifying arguments with reasoning
- Reflection and closing



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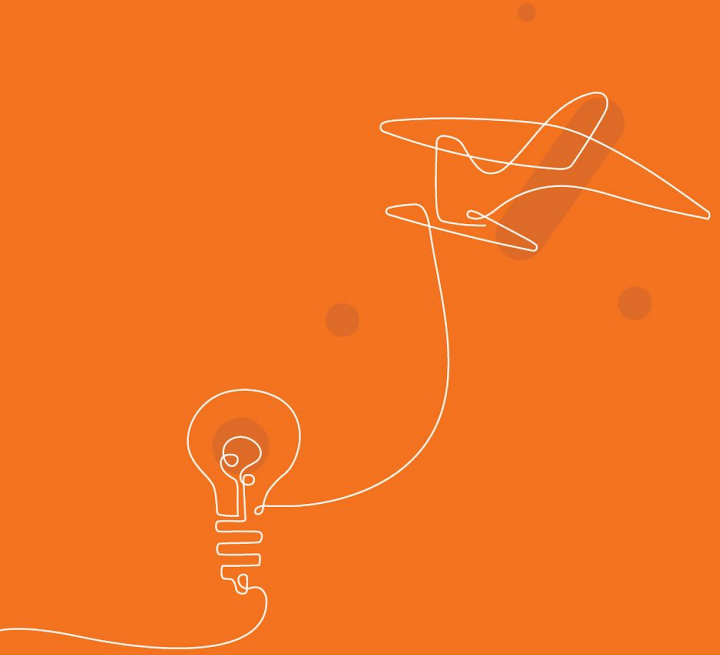


Welcome and Introductions

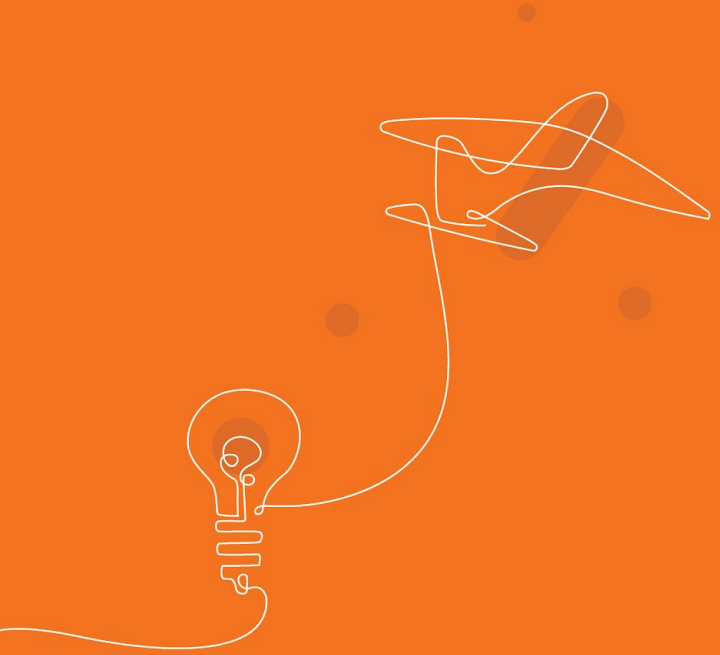
Who's in the Room?

Represent for your borough!

Share your **name, role, & borough**.

Example: Isis, Teacher, 1

1- Brooklyn North
2- Brooklyn South
3- Queens North
4- Queens South
5- The Bronx
6- Staten Island
7- Manhattan



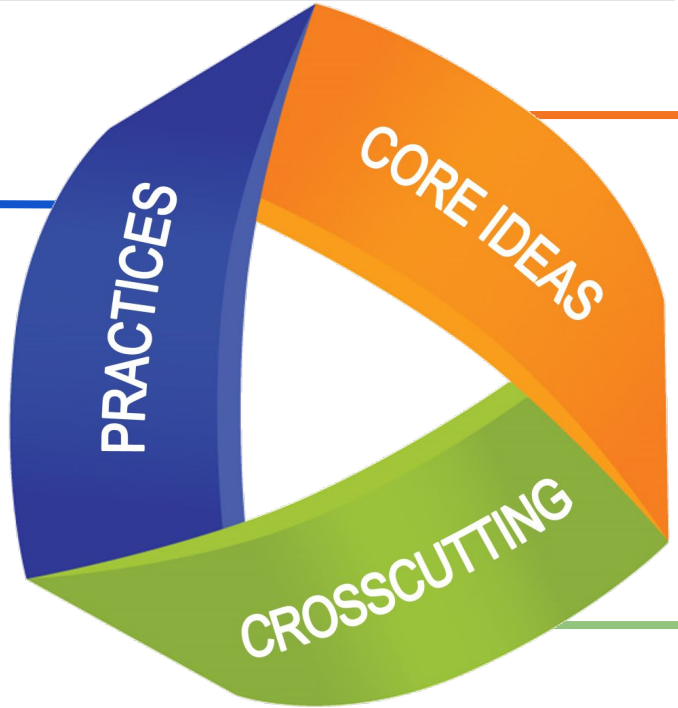
Revisiting the Amplify Science approach

Next Generation Science Standards

Designed to help students build a cohesive understanding of science

What scientists do

Science and Engineering Practices



What scientists want to know

Disciplinary Core Ideas

How scientists think

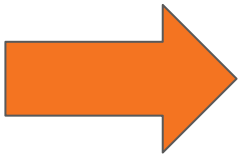
Crosscutting Concepts

Comparing topics and phenomena

A shift in science instruction

from learning about

(like a student)

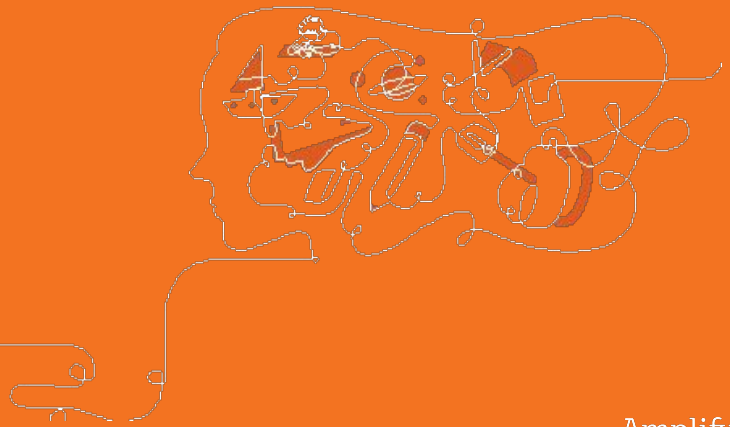


to figuring out

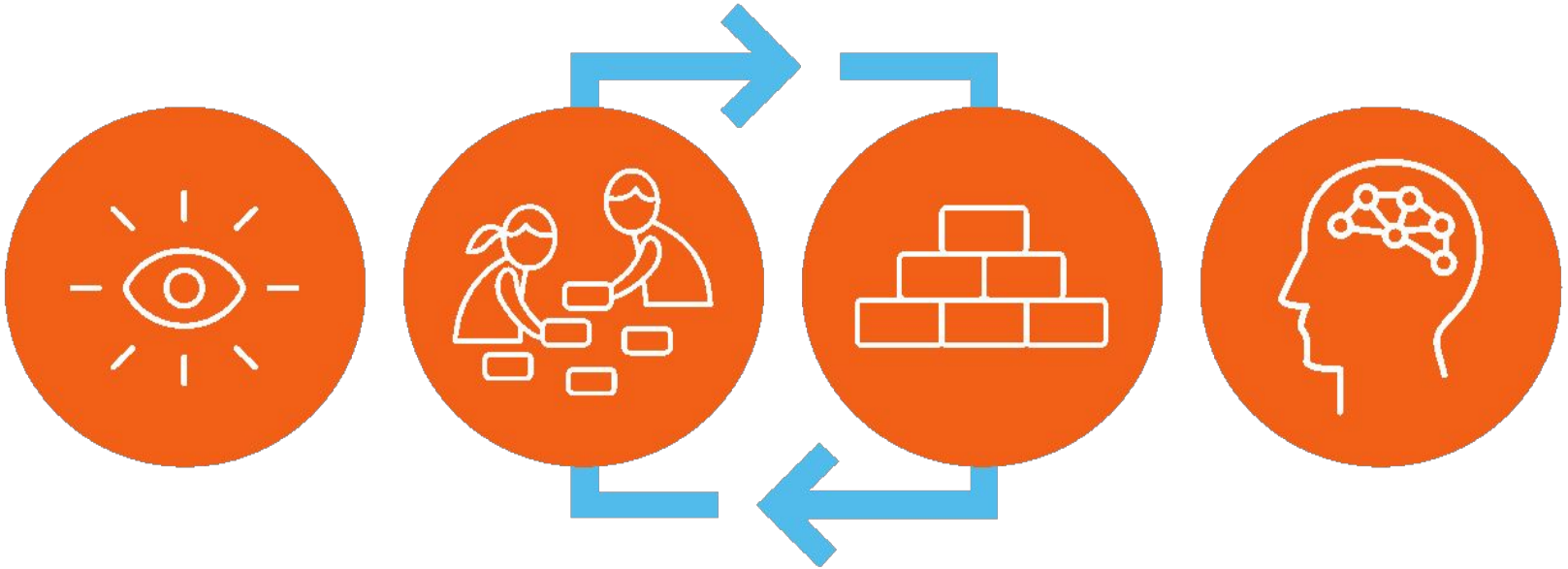
(like a scientist)

Problem-based deep dives

Students inhabit the role of scientists and engineers to explain or predict phenomena. They use what they figure out to solve real-world problems.



Amplify Science approach



Introduce a real world problem

Collect evidence from multiple sources

Build increasingly complex explanations

Apply knowledge to solve a different problem

Do

Talk

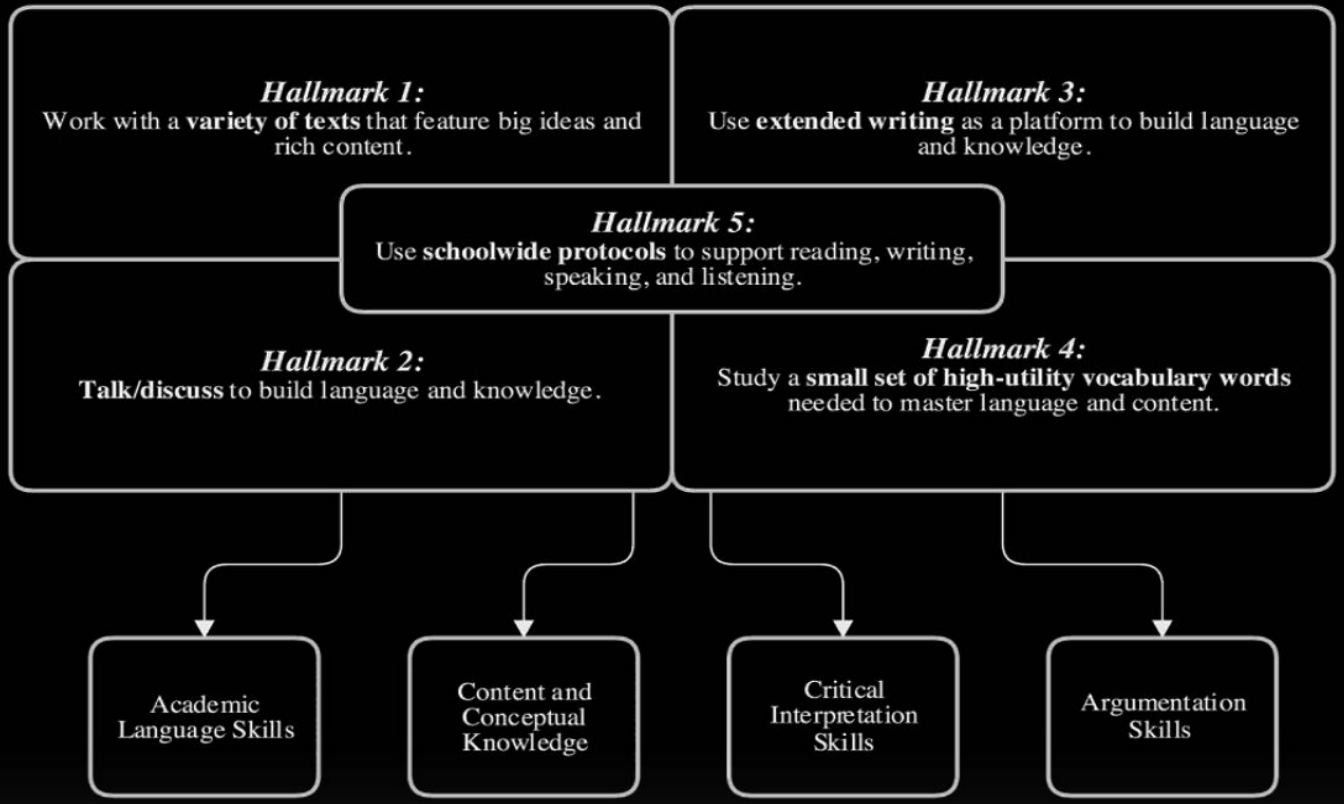
Read

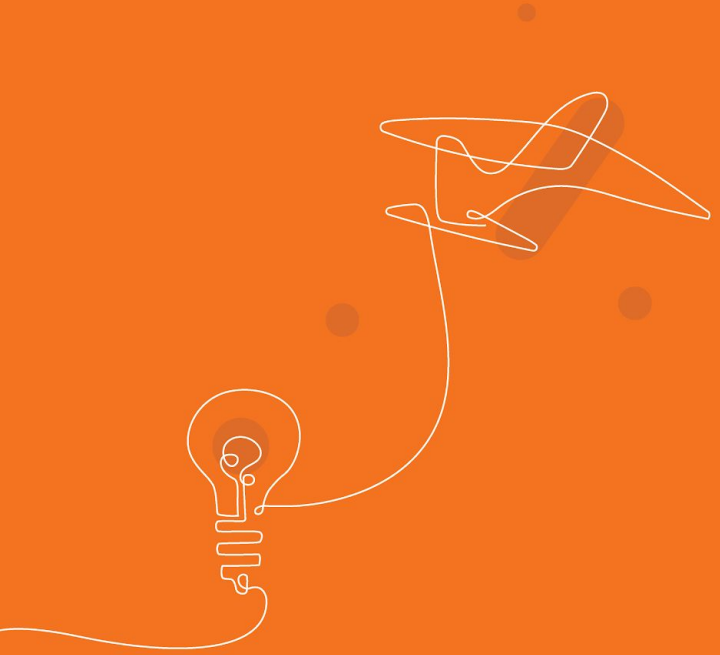
Write

Visualize

Advanced Literacies

Strengthening the Instructional Core





Revisiting Resources

Middle School Curriculum New York City Edition

Grade 6

- Launch: * Harnessing Human Energy
- Thermal Energy
- Ocean, Atmosphere,and Climate
- Weather Patterns
- Populations and Resources
- Matter and Energy in Ecosystems
- Earth's Changing Climate

Grade 7

- Launch: * Microbiome
- Metabolism
- Phase Change
- Chemical Reactions
- Plate Motion
- Engineering Internship: Plate Motion
- Rock Transformations
- Engineering Internship: Earth's Changing Climate

Grade 8

- Launch: Geology on Mars
- Force and Motion
- Engineering Internship: Force and Motion
- Earth, Moon, and Sun
- Magnetic Fields
- Light Waves
- Traits and Reproduction
- Natural Selection
- Evolutionary History

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Middle School curriculum: Unit types

Launch Units

11 Lessons

Harnessing Human Energy

Core Units

19 Lessons

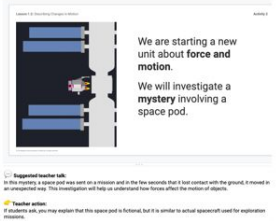
Thermal Energy

Middle school unit resources

Investigation Notebooks or digital student experience

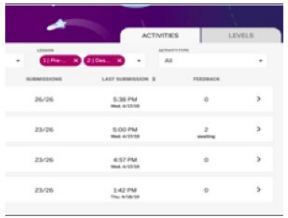
Articles (digital or print)

Simulations and other digital tools



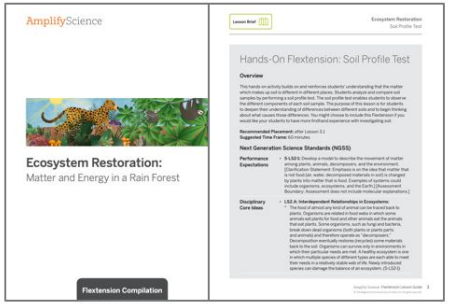
Classroom Slides

Teacher's Guide (digital or print)



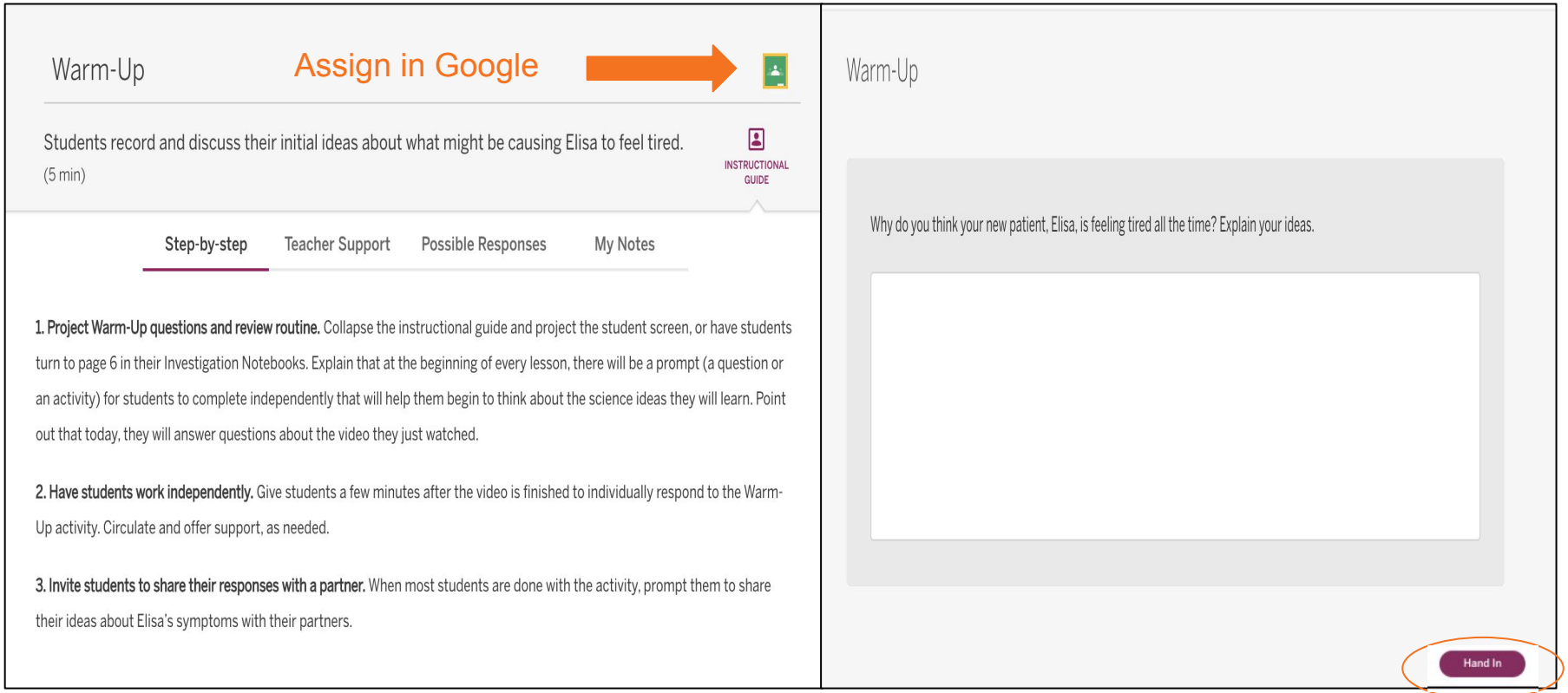
Assessments and Reporting

Hands-on and print materials



Hands-on Flextensions

Middle School Online Component



Amplify.

Welcome Science Educators!

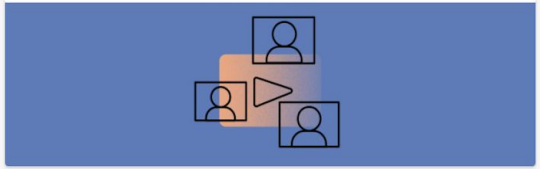
The Amplify Science Program Hub was created to provide you with resources, tools, and advice for all stages of your implementation. Want a tour? Click here!

Remote and hybrid learning resources

Amplify Science@Home makes remote and hybrid learning easier.

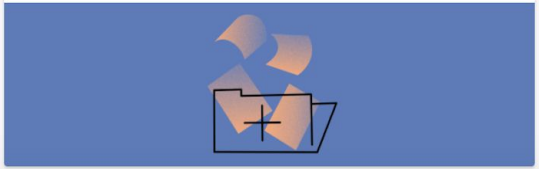
Professional Learning Resources

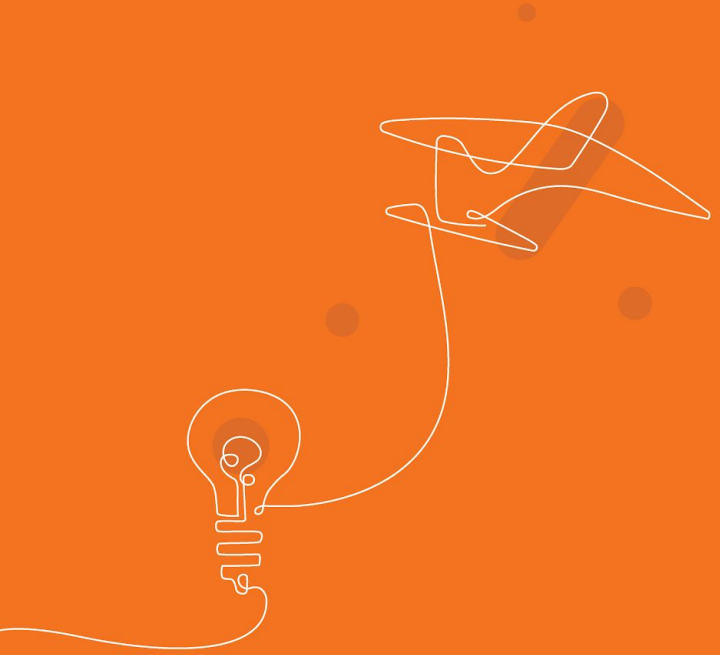
Let's get started!



Additional Unit Materials

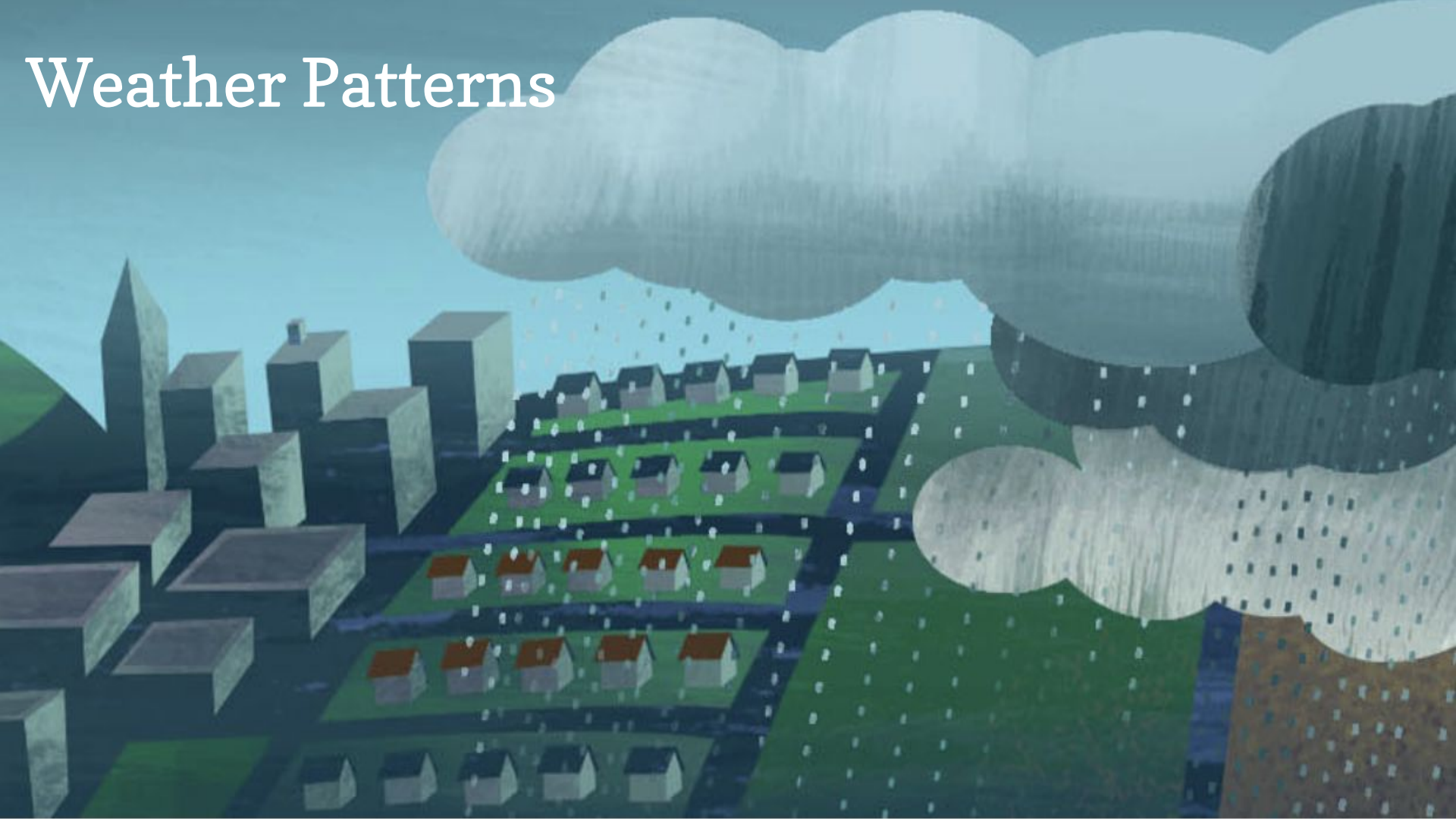
Additional resources to complement the units you're teaching.





Science and Engineering Practices

Weather Patterns



Weather Patterns

Unit Phenomena:
Weather is a complex system that affects our daily lives. Understanding how weather events, such as severe rainstorms, take place is important for students to conceptualize weather events in their own community. Students play the role of student forensic meteorologists as they discover how water vapor, temperature, energy transfer, and wind influence local weather patterns in a fictional town called Galetown. They use what they have learned to explain what may have caused rainstorms in Galetown to be unusually severe in recent years.

Anchor Phenomenon: In recent years, rainstorms in Galetown have been unusually severe.

Student Role: Students play the role of forensic meteorologists who must explain why powerful storms have increased after a manmade lake was built. They learn how air masses, water, and energy from the Sun produce weather phenomena.

Weather Patterns SEP's

Science Practices

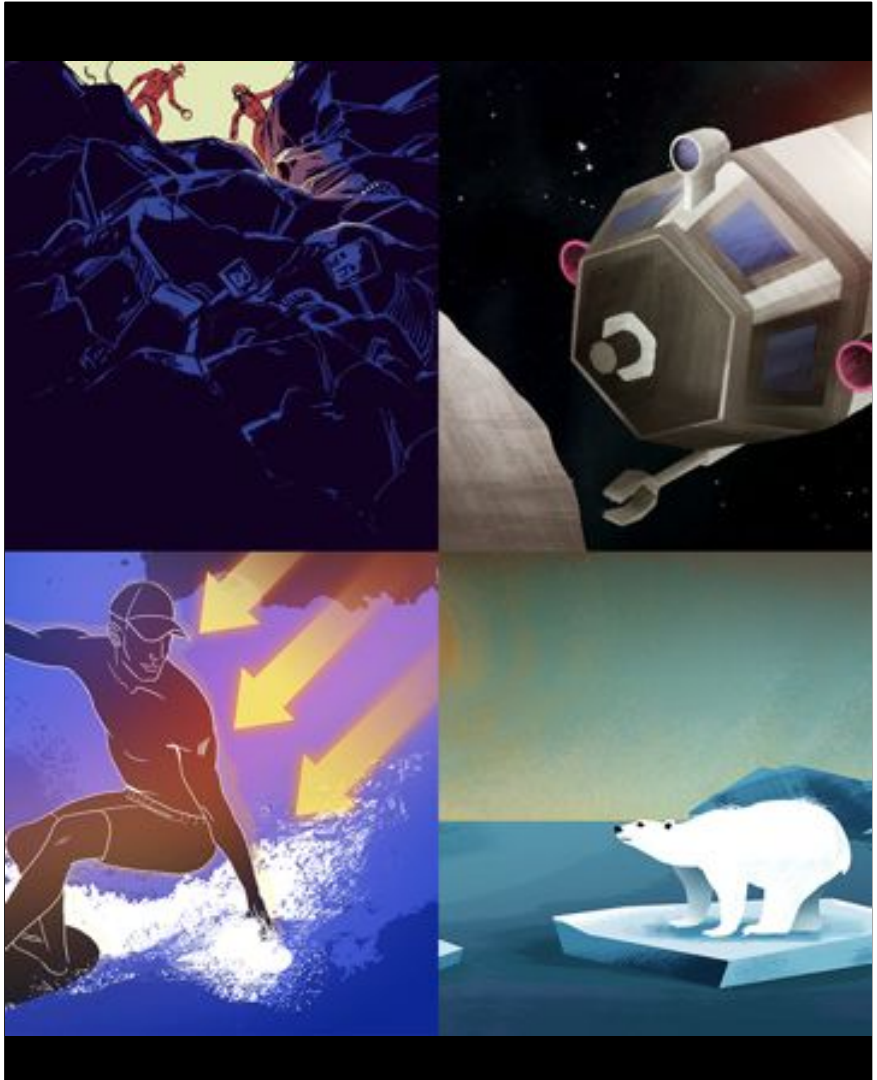
The *Weather Patterns* unit provides students with exposure to all eight of the science and engineering practices described in the Next Generation Science Standards.

- **Practice 1: Asking Questions.** As students investigate weather patterns, their inquiry is guided by a series of strategic questions. They also have many opportunities to pose their own questions. In particular, the Active Reading approach, an approach to reading based on curiosity and inquiry, supports students in asking thoughtful questions as they read science articles.
- **Practice 2: Developing and Using Models.** Students complete visual representations to demonstrate their understanding of key concepts throughout the unit. Physical models are used to investigate how temperature affects condensation in an air parcel, and a large syringe is used by students as a model to explore wind. Models are also used as students develop understanding of how water vapor, temperature, and wind affect the amount of rain in a warm weather storm.
- **Practice 3: Planning and Carrying Out Investigations.** Students use the *Weather Patterns* Simulation and hands-on activities to investigate the relationships between temperature, energy transfer, height of an air parcel in the troposphere, and rainfall to determine what can cause a severe rainstorm.
- **Practice 4: Analyzing and Interpreting Data.** Students use the *Weather Patterns* Simulation to investigate factors that lead to severe storms. In the process, they are called on to analyze and interpret multiple types of graphs that represent changes to the multiple variables that are found within the system.
- **Practice 5: Using Mathematics and Computational Thinking.** As students investigate using the *Weather Patterns* Simulation, they apply ratios, rates, and proportional reasoning to model various weather phenomena.
- **Practice 6: Constructing Explanations.** Students learn about scientific explanations and have multiple opportunities to construct increasingly complex explanations (and defend them through argumentation) over the course of the unit as they explain the factors that influence various weather phenomena.
- **Practice 7: Engaging in Argument from Evidence.** Students receive instruction about the structure of a scientific argument and are supported in evaluating evidence, engaging in scientific reasoning, and producing both oral and written arguments.
- **Practice 8: Obtaining, Evaluating, and Communicating Information.** Students review Active Reading—an approach to obtaining information from science texts—and have multiple opportunities to engage in this practice. Students evaluate and compare data about severe rainstorms and communicate the factors that are contributing to the storms through a series of writing activities.

Weather Patterns

Multiples Modalities

- **Do.** Students use the *Weather Patterns* Simulation and see the air parcel temperature change as the parcel continues to rise until it reaches stability with the surrounding air.
- **Talk.** There are multiple opportunities for students to discuss the factors that influence the severity of a rainstorm and why Galetown's storms have become more severe.
- **Read.** Students read an informational text about cloud formation that describes how an air parcel loses energy until it becomes stable with the surrounding temperature.
- **Write.** During the course of the unit, students write to explain how air parcels change temperature as they rise until the temperature becomes stable with the surrounding temperature. This concept is a major factor in understanding the amount of rain that a storm produces.
- **Visualize.** Students use the *Weather Patterns* Simulation to observe how the air parcel temperature changes as the parcel is moving up and stops rising once it becomes stable with the surrounding temperature.



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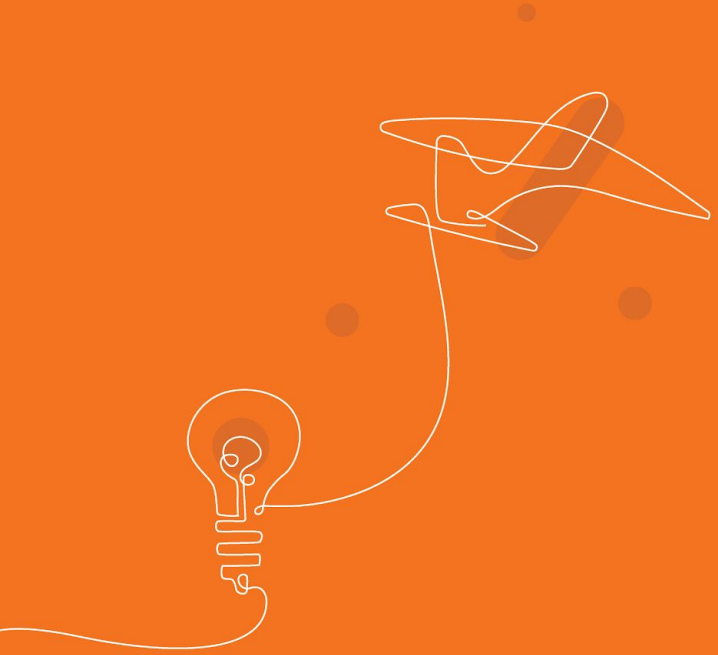
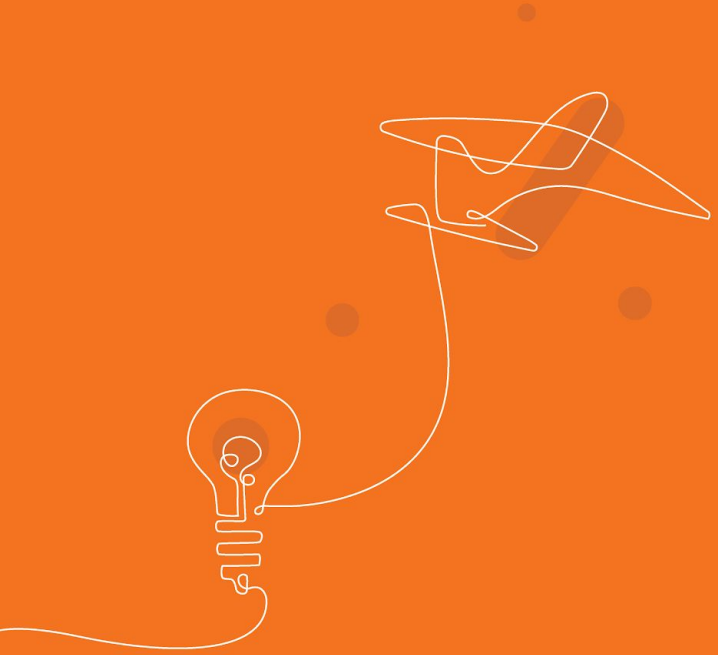


Science and Literacy

Amplify.



Embedded Literacy Supports

AmplifyScience

Amplify Science

Welcome

The Program Guide details information about the program, including its authorship, development, themes, and more. It serves as a resource for finding out more about the program's structure, components, supports, how it meets standards, and flexibility.

Navigate through the links on the left-hand side of the page to access more information about the program and to explore resources that can help with your implementation.

ACCESS THE DIGITAL CURRICULUM

Support

Amplify Help Center

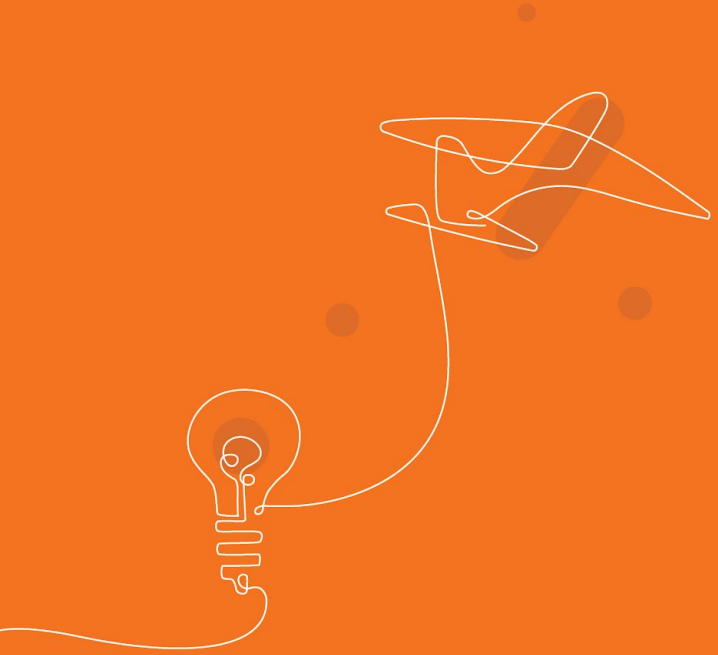
1-800-823-1969

scihelp@amplify.com

More Amplify Science

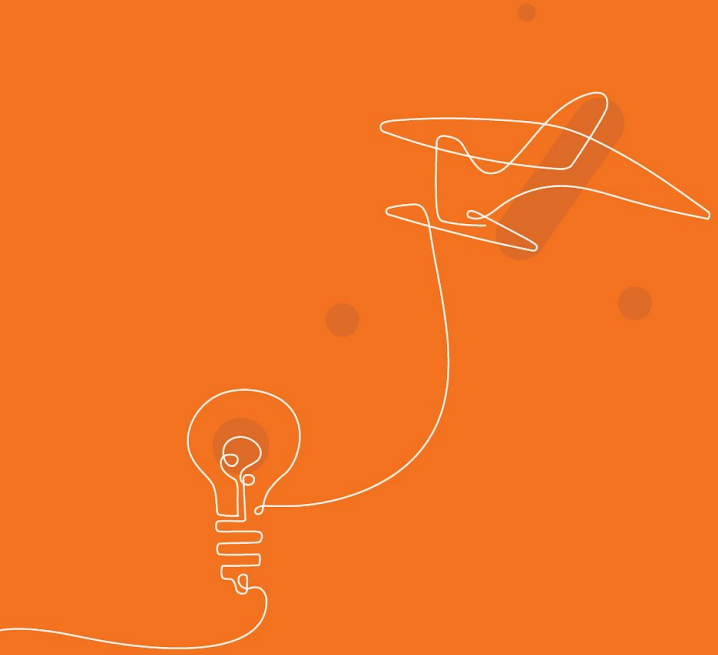
Transitional Kindergarten (TK)

Search Site ... >



Embedded Literacy Strategies

Amplify.



Active Reading









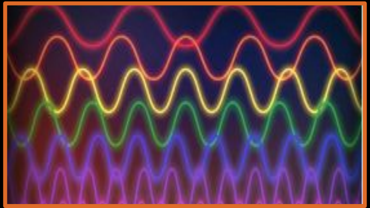












Explicit instruction in reading 56 times in each course x 3 years = at least 170 opportunities to practice Active Reading in middle school science

Amplify.

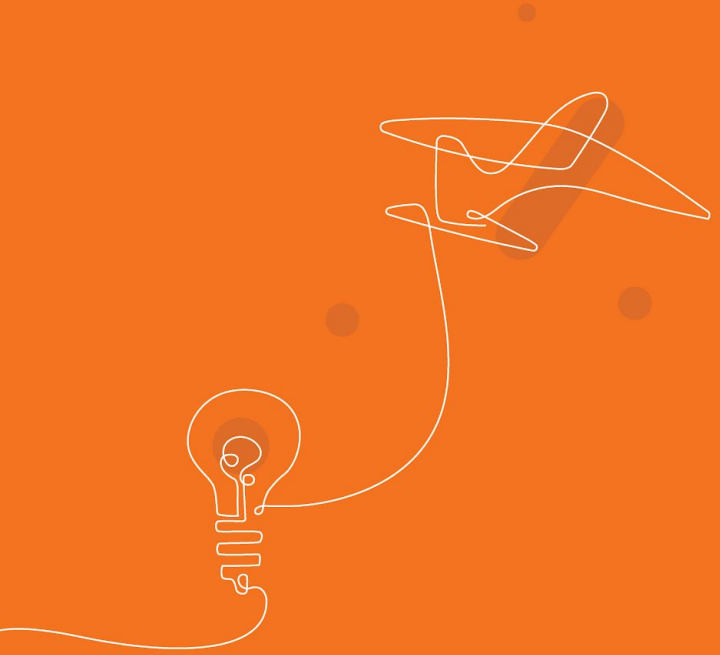
Reflect and Share

- What has been a challenge of reading in Amplify Science in your classroom? What has been a success?
- What strategies do you use to engage and support your students with reading in Amplify Science while teaching remotely?

Active Reading

- **Active reading is explicitly introduced in the Launch Unit for each grade level.**

- **Available formats:**
  - Article Compilation (PDF)
  - Digital Articles (digital library)
  - Student Editions (hardcover books)

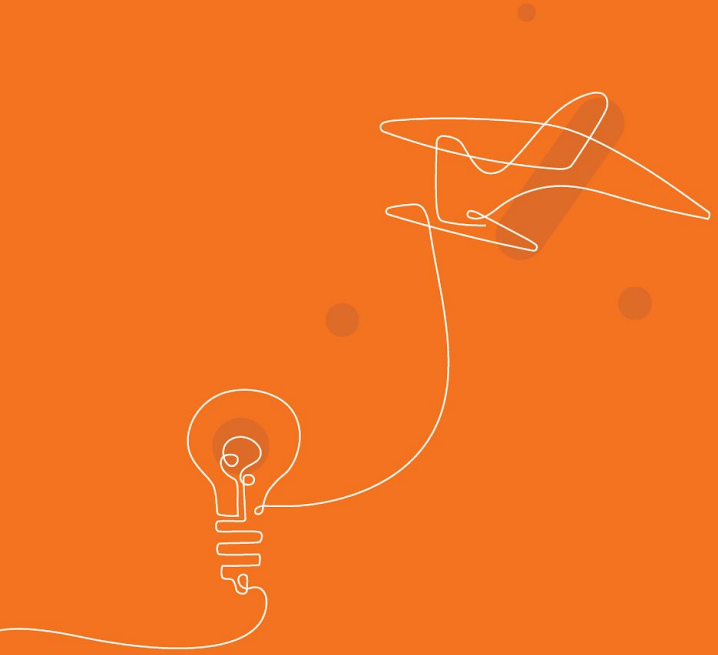


Active Reading Instructional Approach

Amplify.

A typical Active Reading sequence

First Read	Second Read	Third Read
Independent, followed by paired and whole class discussion	Reading for a teacher-directed purpose, followed by a paired, complementary activity	Diving into the text for other, content-related purposes



Active Reading Components

A typical Active Reading sequence

First Read	Second Read	Third Read
Independent, followed by paired and whole class discussion	Reading for a teacher-directed purpose, followed by a paired, complementary activity	Diving into the text for other, content-related purposes

Text Roles/Functions for Inquiry-Based Investigations

Provide context for inquiry-based investigations	**Scientists read and interpret others' data and findings**
Deliver content	**Illustrate phenomenon that would otherwise be unobservable; opportunities to apply what students are learning**
Model scientific processes	**Model inquiry processes; Modeling scientific dispositions; Depicting scientists and their work**
Support secondhand investigations (collection of textual data)	**Provides data for interpretation represented with graphs, pictures, tables; communicating visuals information based in data**
Support first-hand investigations (collection of empirical data)	**Providing students information to supplement their empirical (first-hand) studies; Support the design and implementation of investigations.**

From Cervetti, G. N. & Barber, J. (2009). Text in hands-on science. In Hiebert, E. H. & Sailors, M. (Eds.) *Finding the Right Texts: What Works for Beginning and Struggling Readers.* New York: The Guilford Press.

Students read each article twice
The first read is always to annotate
(questions, connections, comments, etc.

Science and Engineering Practices

8. Obtaining, Evaluating, and Communicating Information

Subsequent reads are for a particular purpose

- To examine a specific visual representation
- To answer a question
- To find evidence to support a claim, or
- To draw conclusions across texts, etc.

Active Reading

Active Reading Guidelines

1. Think carefully about what you read. Pay attention to your own understanding.

2. As you read, annotate the text to make a record of your thinking. Highlight challenging words and add notes to record questions and make connections to your own experience.

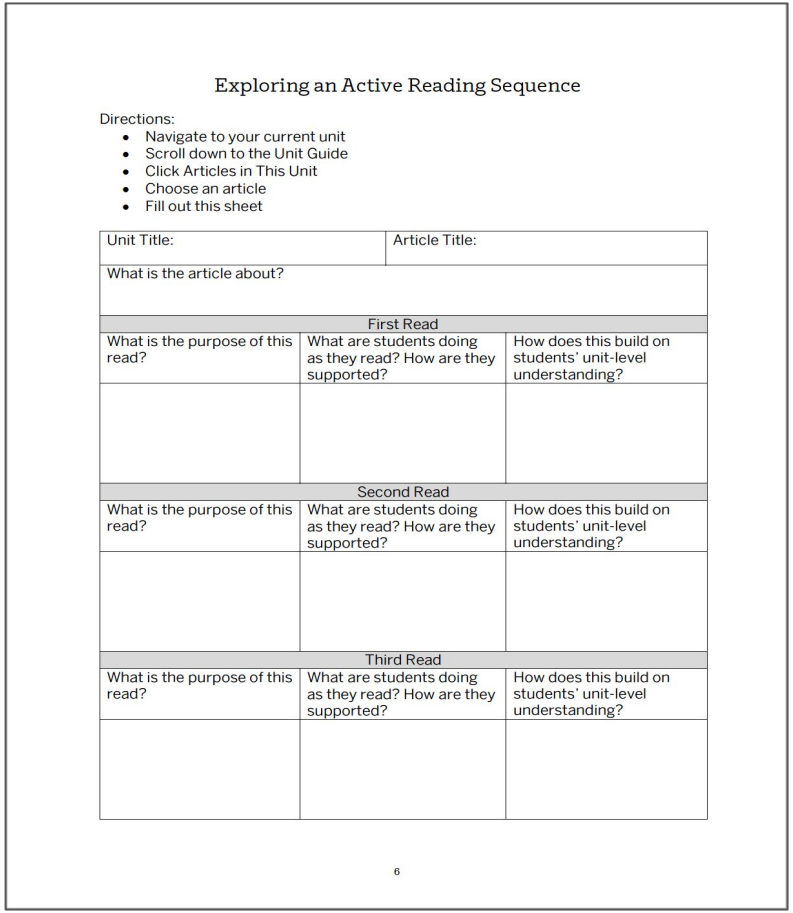
3. Examine all visual representations carefully. Consider how they go together with the text.

4. After you read, discuss what you have read with others to help you better understand the text.

Exploring an Active Reading Sequence

Directions:

- Navigate to the weather pattern unit
- Scroll down to the Unit Guide
- Click “Articles in This Unit”
- Choose an article
- Fill out the sheet on page 6 of your participant notebook



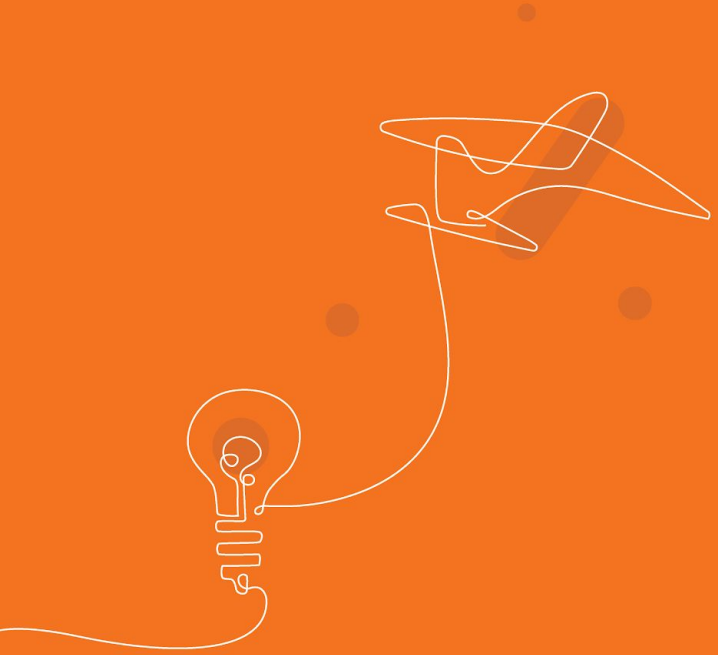
Exploring an Active Reading Sequence

Directions:

- Navigate to your current unit
- Scroll down to the Unit Guide
- Click Articles in This Unit
- Choose an article
- Fill out this sheet

Unit Title:		Article Title:
What is the article about?		
First Read		
What is the purpose of this read?	What are students doing as they read? How are they supported?	How does this build on students' unit-level understanding?
Second Read		
What is the purpose of this read?	What are students doing as they read? How are they supported?	How does this build on students' unit-level understanding?
Third Read		
What is the purpose of this read?	What are students doing as they read? How are they supported?	How does this build on students' unit-level understanding?

6



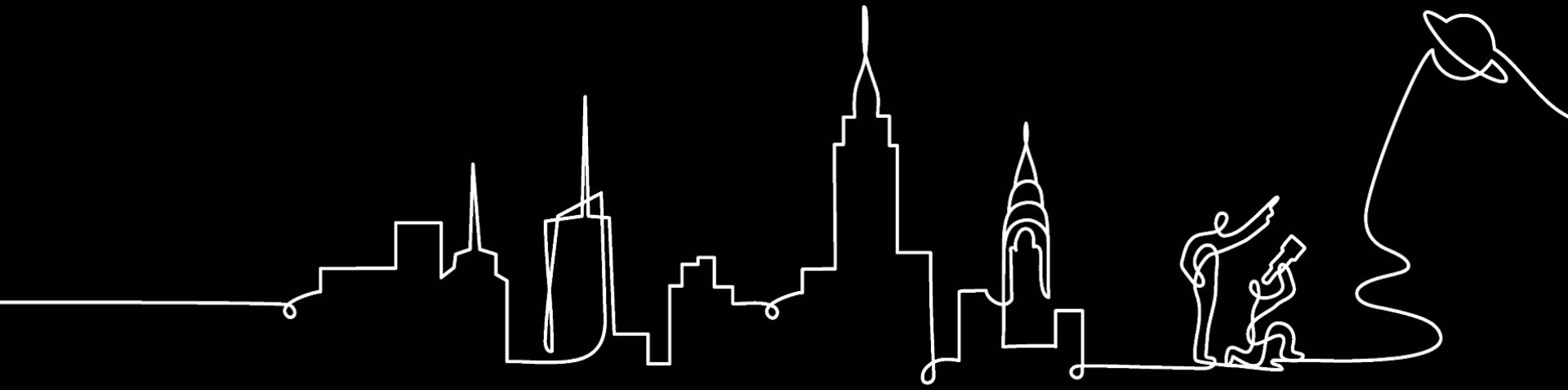
Writing

Reflect and Share

- What is the purpose of writing in Amplify Science?
- What has been a challenge of writing in Amplify Science?
- What strategies do you use to engage and support your students with writing in Amplify Science in a remote/hybrid setting?

Writing in Amplify Science

Purposeful communicative writing is an integral part of the Amplify Science curriculum. Students write daily for many different purposes.



Completed Scientific Argumentation Wall Diagram

Scientific Argumentation *

* These items were posted in the launch unit.

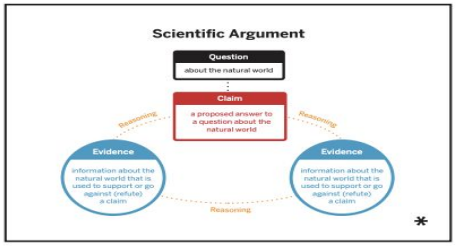
The purpose of a scientific argument is to convince others, using evidence and reasoning. *

Evaluating Evidence *

Evidence criteria posted in previous units

Evidence is higher quality if it comes from a reliable source.

3.2



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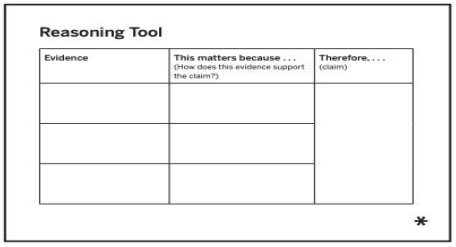

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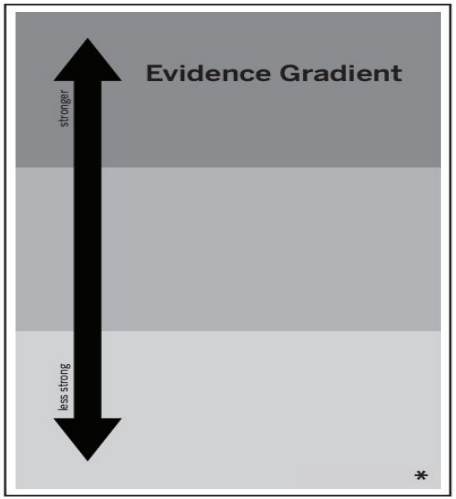


*

A scientific argument . . .

- begins with a question.
- has a claim that proposes an answer to the question.
- has evidence that supports the claim.
- clearly explains how the evidence supports the claim (reasoning).

*

Argumentation Sentence Starters

- I think this evidence supports this claim because . . .
- I don't think this evidence supports this claim because . . .
- I agree because . . .
- I disagree because . . .
- Why do you think that?

*

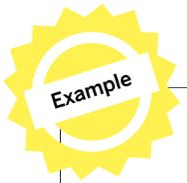
Example Student Arguments

Reasoning Tool

Evidence	**This matters because . . .** (How does this evidence support the claim?)	**Therefore, . . .** (claim)

Using the Reasoning Tool to Support Your Claim

- Circle your strongest piece of evidence.
- Draw an *X* over those pieces of evidence that you do not plan to use in your argument.
- Draw an arrow to connect pieces of evidence that go together.

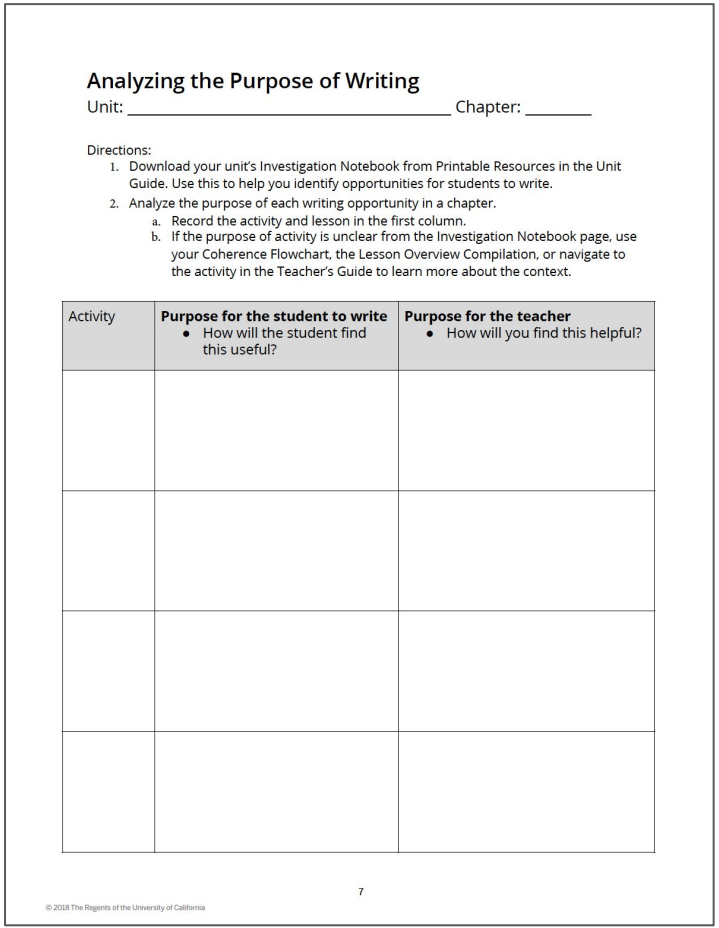


Evidence	This matters because . . . (How does this evidence support the claim?)	Therefore, . . . (claim)
Sample Evidence Card A	Your ideas about how the evidence supports the claim	Your claim
Sample Evidence Card B	Your ideas about how the evidence supports the claim	
Sample Evidence Card C	Your ideas about how the evidence supports the claim	

Exploring Writing Sequence

Directions:

- Download your units investigation notebook from Printable Resources in the Unit Guide for **chapter 1**. Use this to help you identify opportunities for students to write
- Analyze the purpose of each writing opportunity in the chapter.
- Fill out the sheet on page 7 of your participant notebook



Analyzing the Purpose of Writing

Unit: _____ Chapter: _____

Directions:

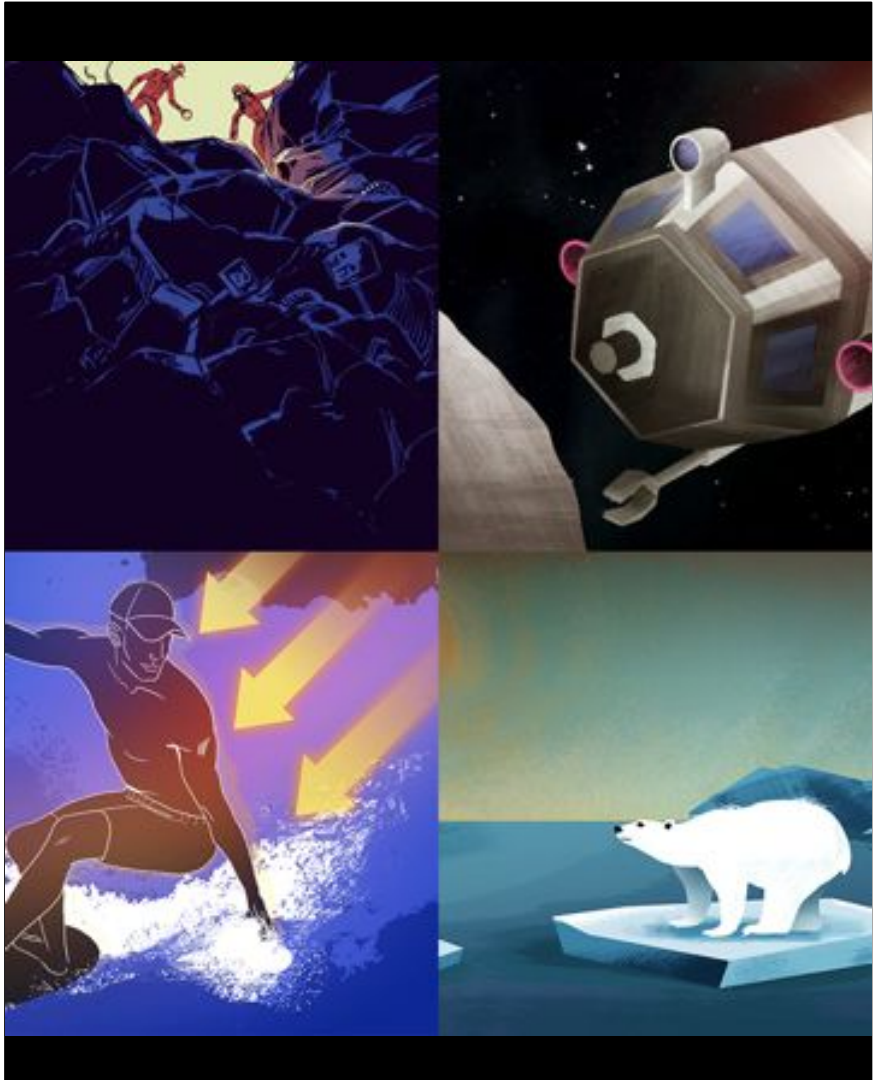
1. Download your unit's Investigation Notebook from Printable Resources in the Unit Guide. Use this to help you identify opportunities for students to write.
2. Analyze the purpose of each writing opportunity in a chapter.
   a. Record the activity and lesson in the first column.
   b. If the purpose of activity is unclear from the Investigation Notebook page, use your Coherence Flowchart, the Lesson Overview Compilation, or navigate to the activity in the Teacher's Guide to learn more about the context.

Activity	**Purpose for the student to write** • How will the student find this useful?	**Purpose for the teacher** • How will you find this helpful?

7

Amplify.

5 min break



Plan for the day

- Framing the day
  - Welcome and introductions
- Shifts in Science Instruction
  - Revisiting the Amplify Science approach
  - Revisiting Resources
  - Science and Engineering practices
- Science and Literacy
  - Embedded literacy supports
  - Embedded literacy strategies
- Applying the Strategies through the Science Seminar
  - Evaluating claims, gathering evidence, and justifying arguments with reasoning
- Reflection and closing

Applying Strategies through the Science Seminar

Science Seminar Sequence

Considering claims and evidence

Participating in the Science Seminar

Writing an argument

Science Seminar Sequence

Considering claims and evidence

Participating in the Science Seminar

Writing an argument

Goals for the Science Seminar Sequence

- Apply content knowledge (DCI's and CCC's) gained throughout the unit to address a new scientific problem
- Highlight practices: making arguments from evidence, constructing explanations, analyzing data, communicating information
- Three-dimensional assessment opportunity
- Engagement: student-centered, open-ended, novel context
- Nature of science: questions with no clear answer

What caused Galetown to have more severe rainstorms?

Claim 1: The lake that was built near Galetown caused it to have more severe rainstorms.

Claim 2: Warmer weather caused Galetown to have more severe rainstorms.

Claim 3: Stronger winds caused Galetown to have more severe rainstorms.

From: Dr. Kenji Emerson
To: Student Meteorologists
Subject: Carson Wilderness Education Center

The director of the Carson Wilderness Education Center contacted me and asked for help solving a weather problem. The Center is located in a remote area and was damaged by weather when very few people were around. The director sent me some data, and it's clear that significant storm activity happened during the time the Center was damaged. I need your help taking a closer look at the data they sent to determine if the damage was done by **one severe storm** or **several storms that provided moderate amounts of rain**.

It is very important for the Center to find out which type of storm caused the damage.
If it was one severe storm, then the repairs will be paid by the insurance. If the damage was caused by several moderate storms, then the Center will have to pay for repairs themselves.

Please help the people at the Carson Wilderness Education Center figure out if it was just one storm or several storms by examining the data, thinking about claims, and discussing everything with your peers.

The Carson Wilderness Education Center Claims

Question: How was the Carson Wilderness Education Center damaged?

- **Claim #1:** The Carson Wilderness Education Center was damaged by one very severe rainstorm.

- **Claim #2:** The Carson Wilderness Education Center was damaged by several moderate rainstorms that happened throughout the month.

Map of the Carson Wilderness Education Center Area

Sorting Evidence

Card A: Neighbor's Data

Side 1

There are a few homes near the Carson Wilderness Education Center. One neighbor who lives close to the Center has been keeping rainfall data for many years and sharing it with the people at the Wilderness Education Center; he has some data that he collected from May.

Card B: Hiker's Observations

Side 1

A group of hikers came through the area near the Carson Wilderness Education Center in May and camped near the Center for a week. When they came back to town, they told people about the weather they had seen on their hike.

Card C: Station 1

Side 1

Station 1 is a weather station near the Carson Wilderness Education Center. It was installed by a research team from a nearby university. The Station collects temperature and rainfall data. Students from the university's research team are in charge of this station and visit it several times a month to check on the station and collect data. Their data is then sent to a government weather agency and published.

Card D: Blog Entry

Side 1

Rae Mezzulo has a blog called *The Beauty and Terror of Nature* where she posts photos of nature and describes what she sees. She was near the Carson Wilderness Education Center for one day in May and wrote an entry about it.

Card C: Station 1

Side 2

The research team collected data from Station 1 on May 4 and May 30.

Temperature and Rainfall Data from Station 1

	May 1–5	May 6–10	May 11–15	May 16–20
Temperature (average high)	25°C (77°F)	26°C (79°F)	15°C (59°F)	33°C (91°F)
Total rainfall in May	40 cm (15.8 in) total for the month (measured on May 30)			

Card D: Blog Entry

Side 2

Blog Entry: May 25

Wow! This place is so beautiful, but the photos I took show how dangerous and scary nature can be! I came out here to take photos, and it is very clear that a huge storm just went through! The water in the creek is flooding over and there are trees down everywhere! Just look at the photos I took! Nature can be very dangerous and beautiful at the same time!

Card A: Neighbor's Data

Side 2

The neighbor, John Barloga, said he travelled a lot during May, so he didn't check the rainfall data regularly like he usually does. He provided the following data:

Wasn't home first part of May.

May 12. No rain, but found 11 cm of rainfall in the rainfall collecting jar. Left again on May 14 for another trip.

May 22. Came home to find creeks full of water and many trees down. Rainfall jar now has 40 cm of rain in it!

Card B: Hiker's Observations

Side 2

One of the hikers described the weather in this way:

"It was pretty wet and rainy. I don't usually hike or camp very much, so I didn't like how much rain we had to deal with. I had hoped it would be sunny because it is springtime! I wish we had chosen a different time to camp."

Card E: Station 2

Side 2

The wind data NOAA collected for May can be found in the table below. Note that they had no data for one week because the machines they use to collect the data stopped working and had to be fixed.

Wind Data from Station 2

	May 1–5	May 6–10	May 11–15	May 16–20
Strength of wind	strong 28–38 kmph (17.4–23.6 mph)	moderate 16–25 kmph (9.9–15.5 mph)	very light wind 0–5 kmph (0–3.1 mph)	no data (equipment was down)

Card E: Station 2

Side 1

Station 2 is located near the Carson Wilderness Education Center. It is run by a government agency, the National Oceanic and Atmospheric Administration (NOAA). NOAA collects wind and air pressure data from this station and publishes it every week on their website.

Amplify.

Choosing Reliable Evidence

Choosing Reliable Sources

Choose the best responses below.

1. Which source did you and your partner think was the MOST reliable (you may choose more than one):

- ☐ Card A: neighbor's data
- ☐ Card B: hiker's observations
- ☐ Card C: Station 1 (run by university students)
- ☐ Card D: *The Beauty and Terror of Nature* blog entry
- ☐ Card E: Station 2 (run by NOAA)

2. Which source did you and your partner think was the LEAST reliable (you may choose more than one):

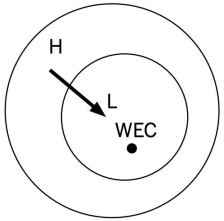
- ☐ Card A: neighbor's data
- ☐ Card B: hiker's observations
- ☐ Card C: Station 1 (run by university students)
- ☐ Card D: *The Beauty and Terror of Nature* blog entry
- ☐ Card E: Station 2 (run by NOAA)

Examining Evidence About The Center

Card G: Air Pressure Data

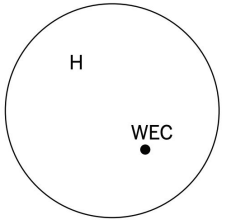
Side 2

May 1–5



There was low air pressure surrounded by high pressure.

May 11–15



There were not any differences in pressure.

Key
wind

Card F: Water Vapor

Side 2

Using the water vapor data that was collected between May 1 and May 20, averages were calculated for each of the five-day time periods.

Water Vapor Data from Carson Wilderness Education Center

	May 1–5	May 6–10	May 11–15	May 16–20
Water vapor	no data	medium	low	medium

Card G: Air Pressure Data

Side 1

Station 2 is run by a government agency, the National Oceanic and Atmospheric Administration (NOAA). NOAA collects wind and air pressure data from this station.

Card F: Water Vapor

Side 1

Scientists at the Carson Wilderness Education Center put in a device to measure the amount of water vapor in the air around the center. The amount of water vapor in the air is measured and recorded at the same time each day.

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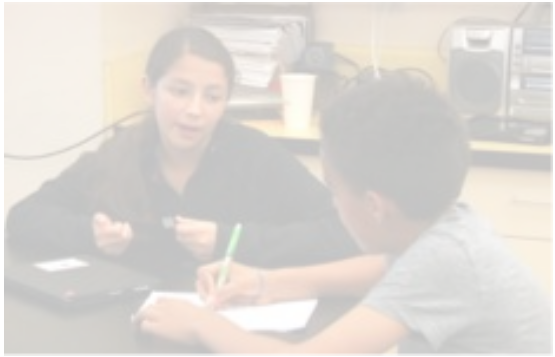
Science Seminar Sequence



Considering claims and evidence

Participating in the Science Seminar

Writing an argument

Name: _____

Evidence from May at the Wilderness Education Center

	May 1–5	May 6–10	May 11–15	May 16–20
Temperature (average high)			15°C (59°F)	
Wind				no data
Water vapor		medium		

Total rainfall in May: 40 cm

Evidence cards

EMBEDDED FORMATIVE ASSESSMENT

Card A: Neighbor's Data

Side 2

The neighbor, John Barloga, said he travelled a lot during May, so he didn't check the rainfall data regularly like he usually does. He provided the following data:

Wasn't home first part of May.

May 12: No rain, but found 11 cm of rainfall in the rainfall collecting jar. Left again on May 14 for another trip.

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Card B: Hiker's Observations

Side 2

One of the hikers described the weather in this way:

"It was pretty wet and rainy. I don't usually hike or camp very much, so I didn't like how much rain we had to deal with. I had hoped it would be sunny because it is springtime! I wish we had chosen a different time to camp."

Card C: Station 1

Side 2

The research team collected data from Station 1 on May 4 and May 30.

Temperature and Rainfall Data from Station 1

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Card D: Blog Entry

Side 2

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Card E: Station 2

Side 2

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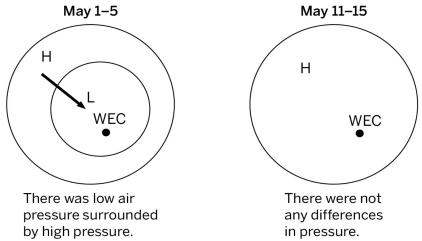
Card G: Air Pressure Data

Side 1



There was low air pressure surrounded by high pressure.

There were not any differences in pressure.

Science Seminar expectations

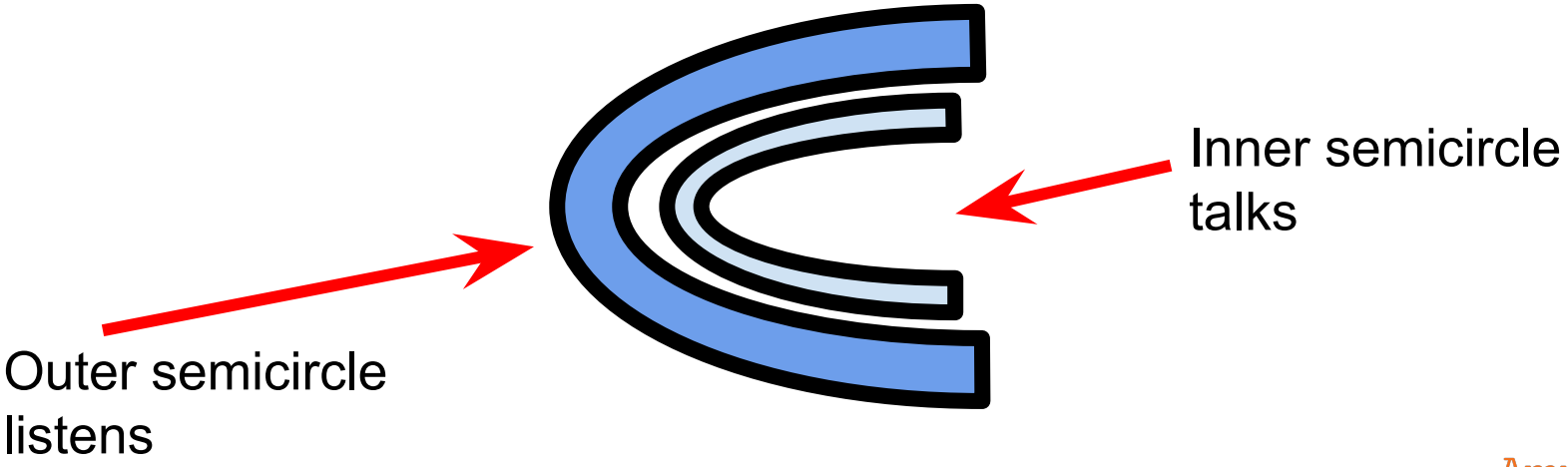
Students are expected to:

- Run the conversation.
- Use evidence to support ideas.
- Explain their thinking.
- Listen to one another.
- Respond to one another.
- Be open to changing their minds.

Science Seminar seating

Class arrangement:

- Half the class sits in the inner semicircle.
- The other half of the class sits in the outer semicircle.



Science Seminar Observations

Write a check mark in the right-hand column every time you hear one of your peers say or do something listed in the left-hand column. If you hear an interesting idea, write it in the last row of the table.

OBSERVATIONS DURING THE SEMINAR	CHECK MARKS
I heard a student use evidence to support a claim.	
I heard a student respectfully disagree with someone else's thinking.	
I heard a student explain how her evidence is connected to her claim.	
I heard a student evaluate the quality of evidence.	
I heard an idea that makes me better understand one of the claims. That idea is: _____ _____	

Scaffolding Talk

Add a new idea with evidence:

- I think _____ because…
- My evidence is…

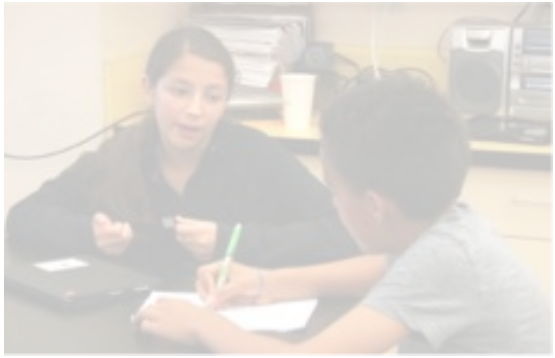
Agree/Disagree and use evidence:

- I agree/disagree with _____ because...
- I am now convinced that ____ because...

Ask a question

- What is your evidence?
- Given this evidence, how sure are you? How could you be more sure?
- Do you agree or disagree with what _____ said?
- I have a question for _____ about…
- Could you say more about that?
- Could you give us an example?
- I wonder…

Science Seminar Sequence



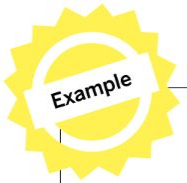
Considering claims and evidence

Participating in the Science Seminar

Writing an argument

Using the Reasoning Tool to Support Your Claim

- Circle your strongest piece of evidence.
- Draw an *X* over those pieces of evidence that you do not plan to use in your argument.
- Draw an arrow to connect pieces of evidence that go together.



Evidence	This matters because . . . (How does this evidence support the claim?)	Therefore, . . . (claim)
Sample Evidence Card A	Your ideas about how the evidence supports the claim	Your claim
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Sample Evidence Card C	Your ideas about how the evidence supports the claim	

Argument Organizers

Argument Organizer

Claim 1: The Carson Wilderness Education Center was damaged by one very severe rainstorm.

Argument Organizer

Claim 2: The Carson Wilderness Education Center was damaged by several moderate rainstorms that happened throughout the month.

Writing a Scientific Argument

Name: _____ Date: _____

Writing a Scientific Argument

Write your scientific argument to the Carson Wilderness Education Center below. As you write remember to:

- Include your strongest, most convincing evidence.
- Use the Scientific Argument Sentence Starters and the Word Bank in Part 2 to help you explain your thinking.

How was Carson Wilderness Education Center destroyed?

- **Claim 1:** The Carson Wilderness Education Center was damaged by one very severe rainstorm.
- **Claim 2:** The Carson Wilderness Education Center was damaged by several moderate rainstorms that happened throughout the month.

Part 1: Before you write your argument supporting Claim 1 or Claim 2, you will need to explain to the people at the Carson Wilderness Education Center what causes a rainstorm. Use the space below to write them an explanation.

- Be sure to tell them about all the factors that can cause a rainstorm (remember, they are not experts in meteorology).
- You will use information from the Evidence Cards to write your argument about what happened to the Carson Wilderness Education Center in Part 2.

Part 2: Write a scientific argument that addresses the question: *How was the Carson Wilderness Education Center damaged?*

- First, state your claim. You may choose to use one of the two claims given in Part 1, or you can create your own.
- Then, use information from your Evidence from May Data Table or the Evidence Cards to support your claim.
- You may want to refer to your writing in Part 1 to help explain why your evidence supports the claim.

Word Bank

air parcel	cloud	condensation	energy	evaporation
temperature	troposphere	water vapor	wind	

Scientific Argument Sentence Starters

Describing evidence:	**Explaining how the evidence supports the claim:**
The evidence that supports my claim is . . . My first piece of evidence is . . . Another piece of evidence is . . . This evidence shows that . . .	If ____, then . . . This change caused . . . This is important because . . . Since, . . . Based on the evidence, I conclude that . . . This claim is stronger because . . .

Amplify.

Science Seminar Reflection

How do students use literacy practices to:

- make and evaluate claims
- gather evidence
- justify arguments with relevant reasoning

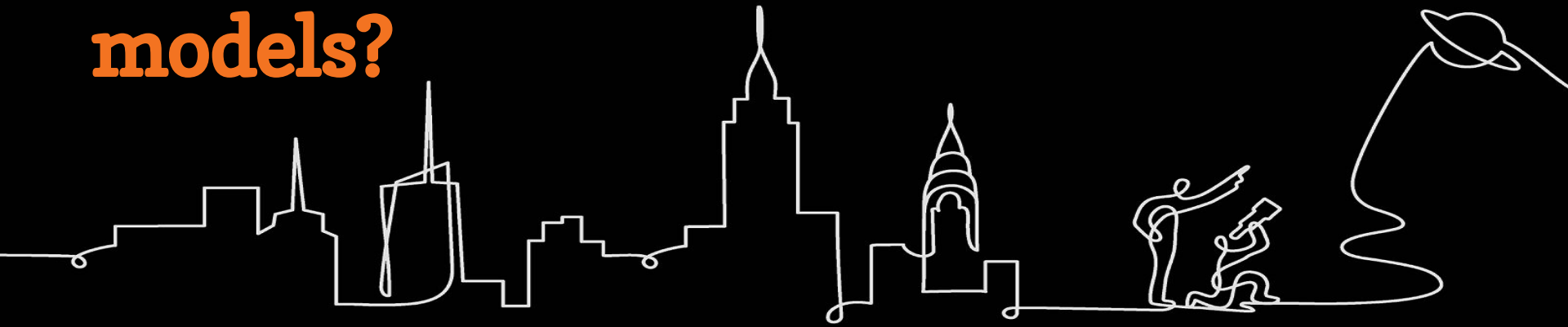
Considering claims & evidence

Participating in the Science Seminar

Writing an argument

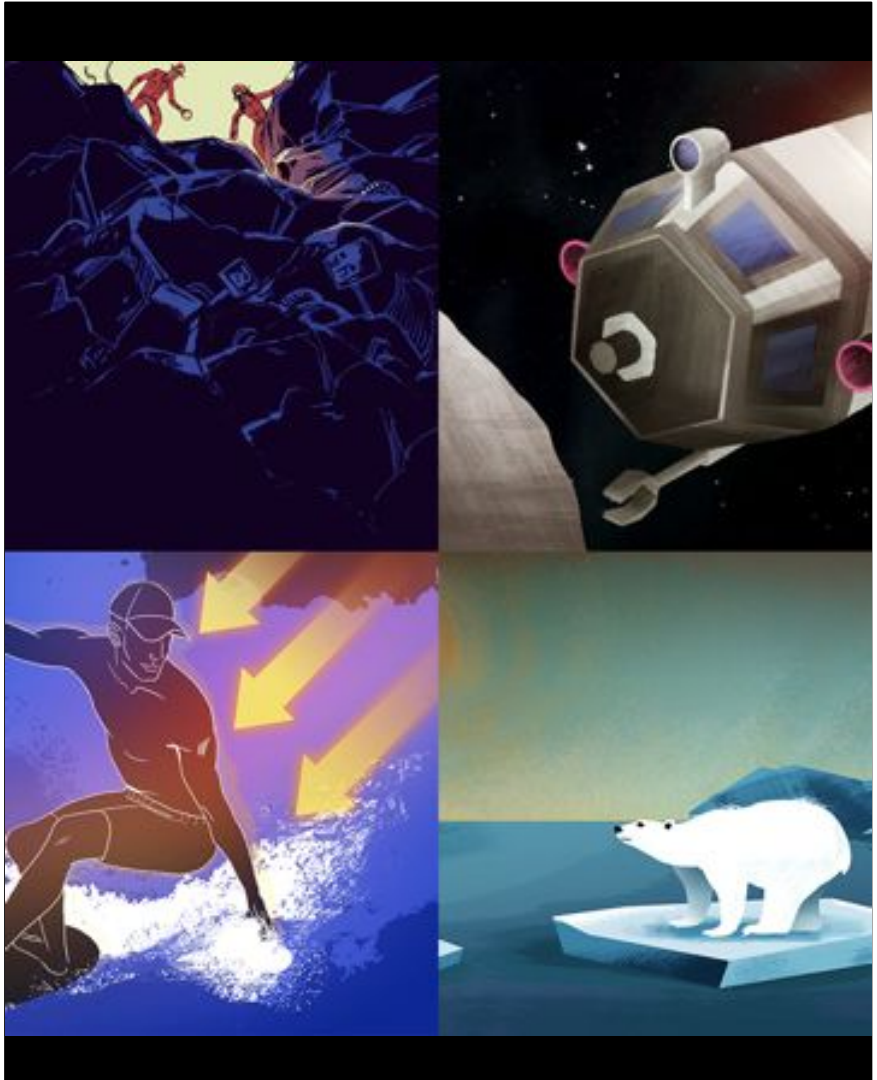
Reflect-Type-Chat! Share and Learn

How can you adapt the science seminar or how have you adapted for remote and hybrid instructional models?



Science seminar and distance learning

- If possible, have an online discussion. Set discussion normals.
- If needed, use a collaborative document (Google docs, Padlet, Jamboard) for virtual, asynchronous student discussion
- Use existing student supports (sentence stems, science seminar guidelines)
- Create digital evidence cards (Google slides, Padlet, Jamboard) and have students sort them
- Have students share their screens to visually support the evidence they share
- Consider leading seminars in smaller groups
- See @Home Units for guidance
- Have students prepare independently or in partners



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  - Embedded literacy strategies
- Applying the Strategies through the Science Seminar
  - Evaluating claims, gathering evidence, and justifying arguments with reasoning
- Reflection and closing

Revisiting Our Objectives:

- Focus on the shifts in emphasizing the Science and Engineering practices which require students to read and write like scientists.
- Identify embedded strategies for explicit literacy support.
- Understand how these strategies help students make and evaluate claims, gather evidence, and justify arguments with relevant reasoning.
- Engage in reflection on how a science seminar structures opportunities for verbal and written argumentation.

Revisiting our objectives

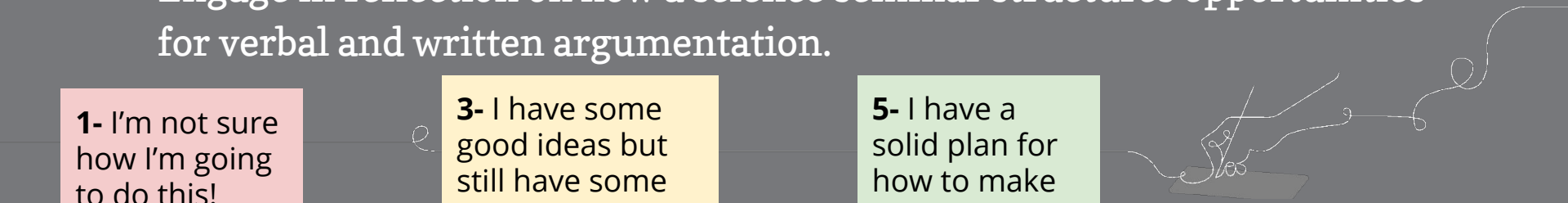
Do you feel ready to...

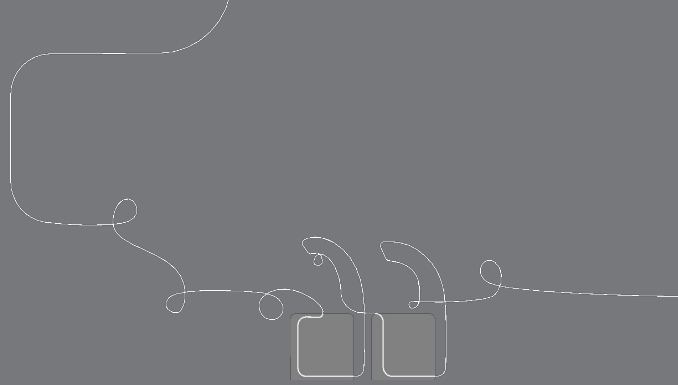
- Focus on the shifts in emphasizing the Science and Engineering practices which require students to read and write like scientists.
- Identify embedded strategies for explicit literacy support.
- Understand how these strategies help students make and evaluate claims, gather evidence, and justify arguments with relevant reasoning.
- Engage in reflection on how a science seminar structures opportunities for verbal and written argumentation.

1- I'm not sure how I'm going to do this!

3- I have some good ideas but still have some questions.

5- I have a solid plan for how to make this work!



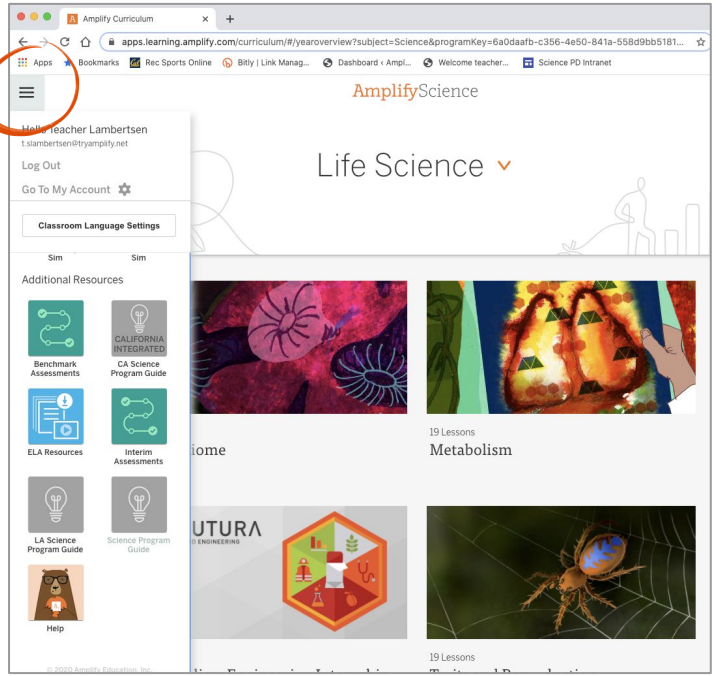


Questions?

Amplify Science Program Hub

A new hub for Amplify Science resources

- **Videos and resources to continue getting ready to teach**
- Amplify@Home resources
- Keep checking back for updates



science.amplify.com/programhub

New York City Resources Site

https://amplify.com/resources-page-for-nyc-6-8/

Amplify.

Amplify Science Resources for NYC (6-8)

—

Welcome! This site contains supporting resources designed for the New York City Department of Education Amplify Science adoption for grades 6–8.

THE LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

Educator Spotlight Submission

20-21 Login Update

Professional learning opportunities

Introduction

Getting started resources

Contact Us

Educator Spotlight Submission

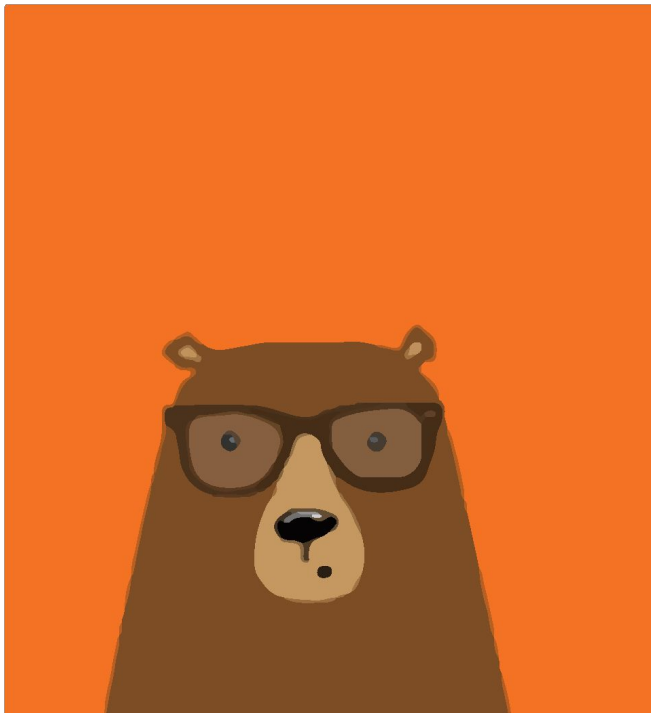
Calling all NYC DOE educators! Do you know an educator who has gone above and beyond? Would you like to highlight your teaching experience for others? Submit nominations here to see them featured as a spotlight in a future edition of our monthly newsletter and on our Instagram pages!

Site Resources

- Login information
- Pacing guides
- Getting started guide
- NYC Companion Lessons
- **Resources from PD sessions**
- And much more!

Amplify.

Additional Amplify resources



Program Guide

Glean additional insight into the program's structure, intent, philosophies, supports, and flexibility.

https://my.amplify.com/programguide/content/national/welcome/science/

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help

Additional Amplify Support

Customer Care

Seek information specific to enrollment and rosters, technical support, materials and kits, and teaching support, weekdays 7AM-7PM EST.

scihelp@amplify.com

800-823-1969

Amplify Chat

When contacting the customer care team:

- Identify yourself as an Amplify Science user.
- Note the unit you are teaching.
- Note the type of device you are using (Chromebook, iPad, Windows, laptop).
- Note the web browser you are using (Chrome or Safari).
- Include a screenshot of the problem, if possible.
- Copy your district or site IT contact on emails.