

# Amplify Science

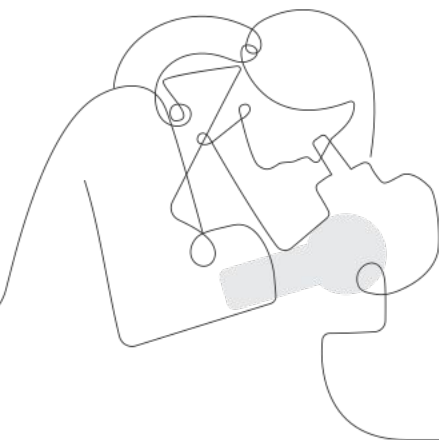
## Grade 8: Earth, Moon, and Sun

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

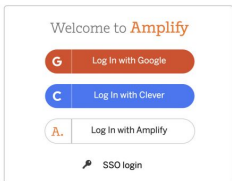
### Log In with Amplify

#### K-8 Classroom Teachers | Clever Login

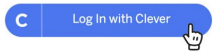
1. Go to [learning.amplify.com](https://learning.amplify.com)

Reminders:

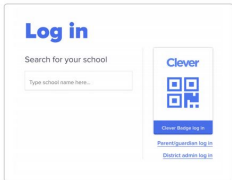
- Use the latest version of Safari or Chrome
- Supported devices: iPad 5 or more recent, MacBooks, Windows laptops or desktops, and Chromebooks
- **Pro Tip:** Bookmark this url in your browser



2. Select **Log In with Clever**



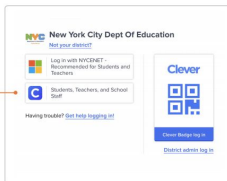
3. Search for and **select your school by name or DBN** (ex. 00M000 - PS/IS School Name)



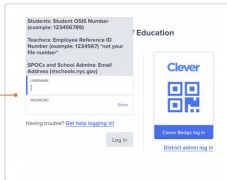
AmplifyScience

#### 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](mailto:help@amplify.com) or call (800)823-1969 for additional support.

AmplifyScience

### Log in with TeachHUB

#### Clever

#### TeachHub: Teacher Login Guide

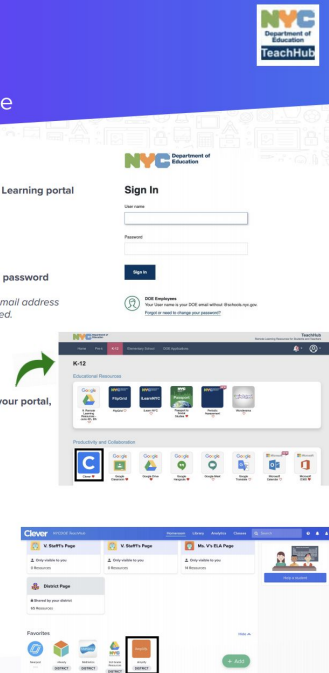
1. Head to the DOE's new Remote Learning portal at [teachhub.schools.nyc](https://teachhub.schools.nyc)

2. Enter your DOE username and password

*\*For teachers, this is your DOE email address with the @school.nyc.gov removed.*

3. Select the K12 tab at the top of your portal, then click on the Clever app

4. Click on the Amplify icon



Clever  
Questions? Visit [support.clever.com](https://support.clever.com).

# Use two windows for today's webinar

The image illustrates how to use two browser windows for a webinar. It shows two windows side-by-side:

- Window #1:** A Google Meet page titled "Meet - Etiwanda Grade 7 N". The URL is `meet.google.com/hcs-dxpk-wrm?aut...`. It shows a meeting interface with a video feed area and a toolbar.
- Window #2:** An Amplify Science lesson page titled "Lesson 1.2: Using Fossils to Understand Earth". The URL is `apps.learning.amplify.com/curriculu...`. The page features a large illustration of a dinosaur in a prehistoric landscape. Below the illustration, there are sections for "Lesson Brief (4 Activities)", "WARM-UP Warm-Up", "TEACHER-LED DISCUSSION Why Geologists Value Fossils", and "TEACHER-LED DISCUSSION Introducing Mesos". There are also buttons for "RESET LESSON" and "GENERATE PRINTABLE LESSON".

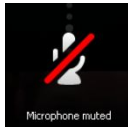
An inset in the top left shows a mouse cursor clicking the maximize button (the green square) in the window title bar of Window #1. An orange arrow labeled "Window #1" points to the window, and another orange arrow labeled "Window #2" points to the second window.

# 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.

e



# Capturing key takeaways!

A notebook page with a grid for capturing key takeaways. The page is divided into four quadrants by a vertical red line on the left, a vertical black line, and a horizontal black line. The top-left quadrant is labeled "Embedded Strategies", the top-right "The shifts", the bottom-left "Applying the Strategies through the Science Seminar", and the bottom-right "Additional Notes".

<i>Embedded Strategies</i>	<i>The shifts</i>
<i>Applying the Strategies through the Science Seminar</i>	<i>Additional Notes</i>

# 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

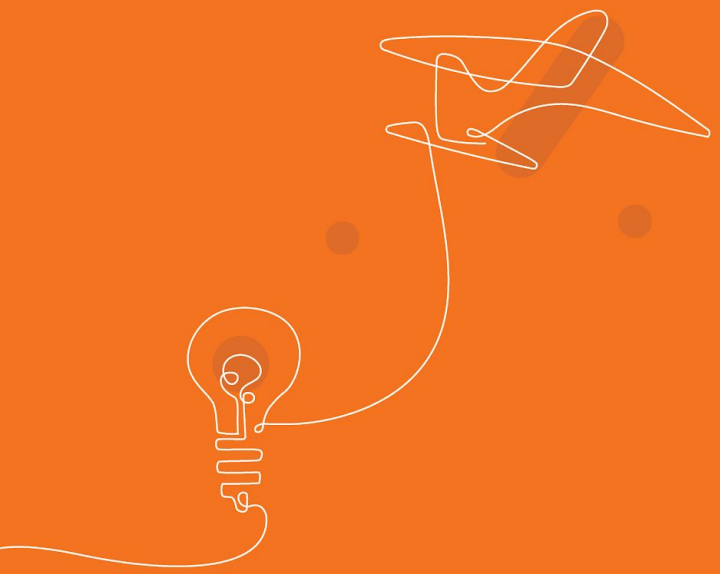


# Plan for the day



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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**

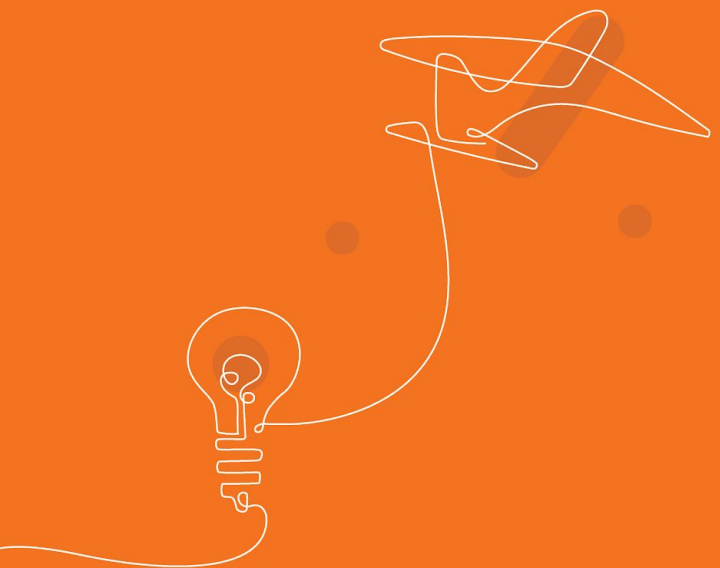
**3- Queens North**

**4- Queens South**

**5- The Bronx**

**6- Staten Island**

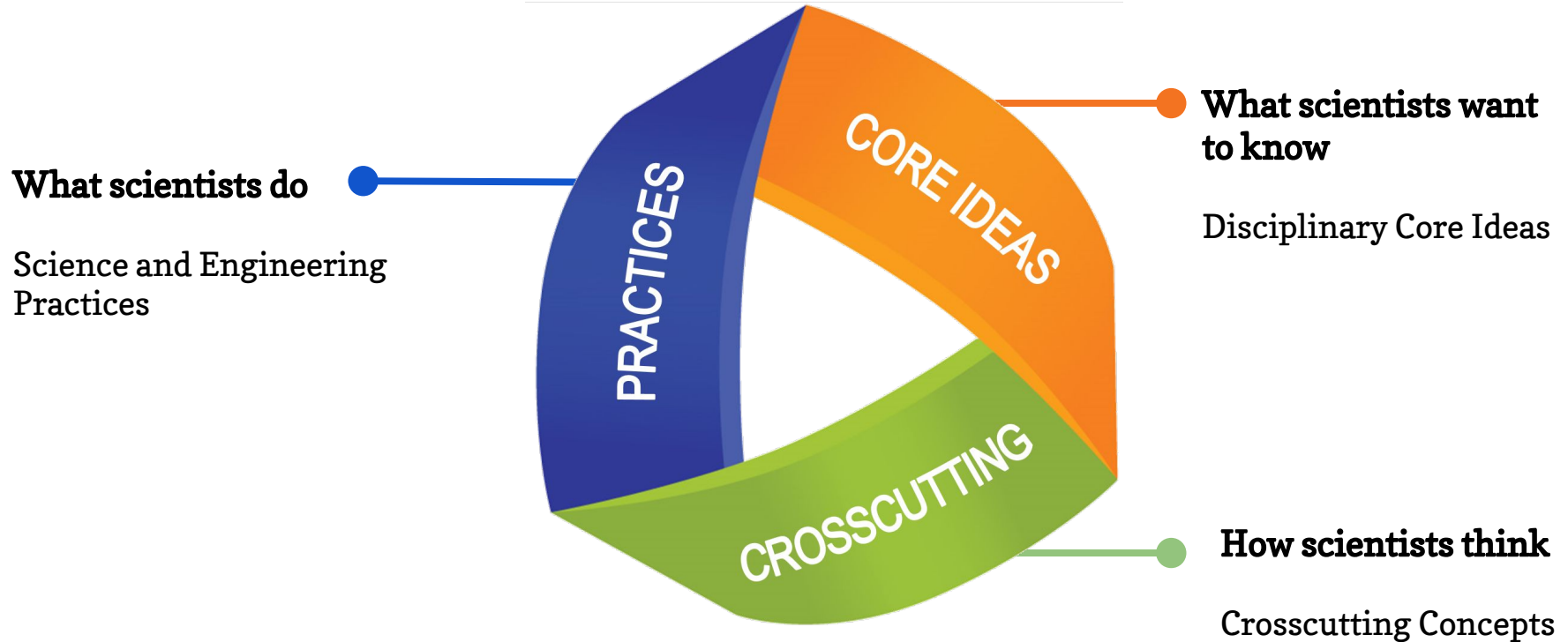
**7- Manhattan**



# Revisiting the Amplify Science approach

# Next Generation Science Standards

Designed to help students build a cohesive understanding of science

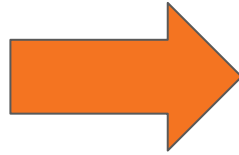


# Comparing topics and phenomena

## A shift in science instruction

from learning about

(like a student)

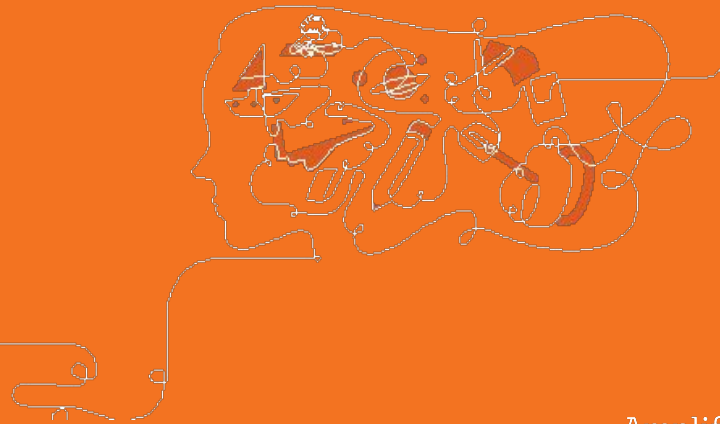


to figuring out

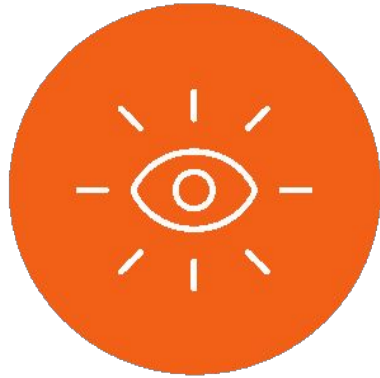
(like a scientist)

# 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.



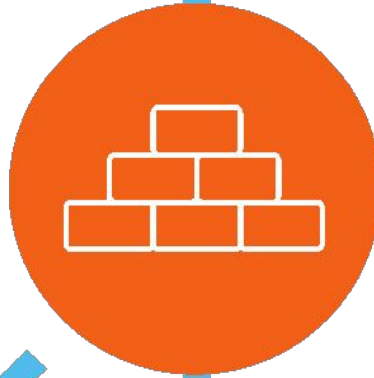
# Amplify Science approach



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

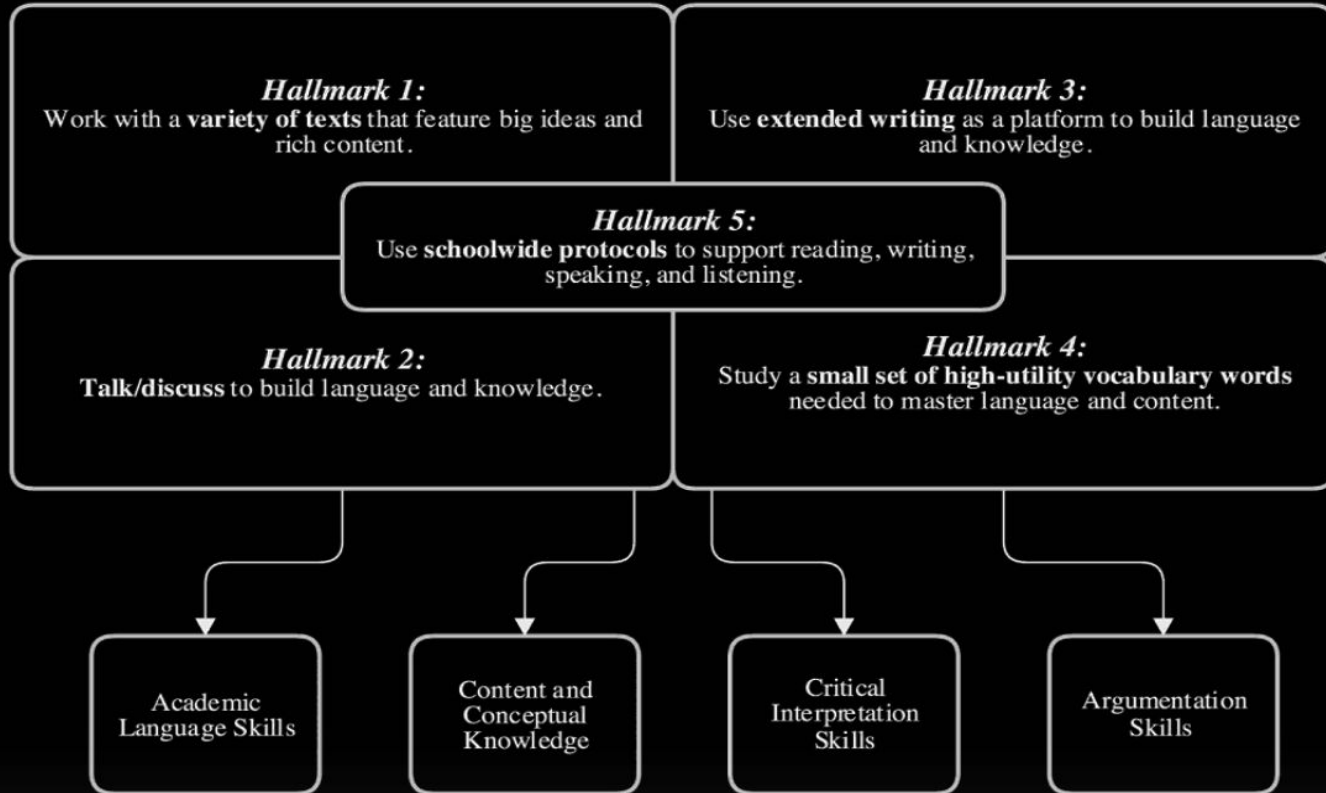


Visualize

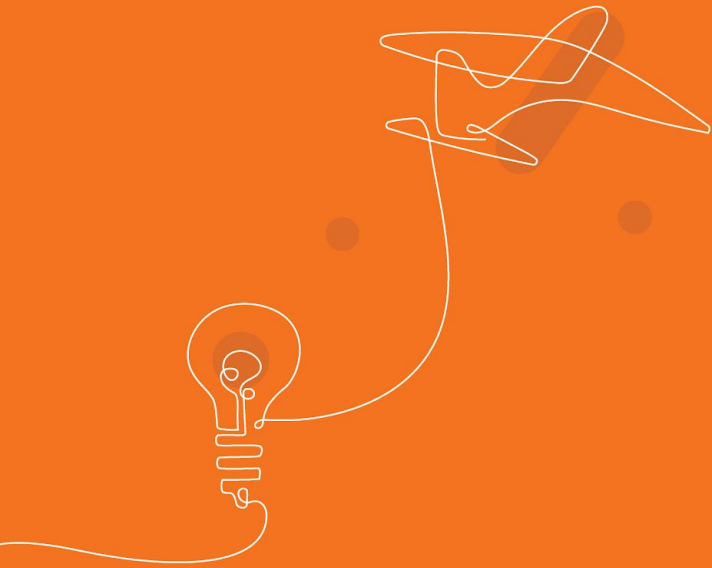


# Advanced Literacies

## 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

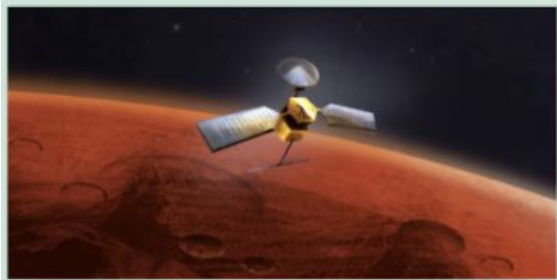
## Grade 8

- 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



# Middle School curriculum: Unit types

## Launch Units



11 Lessons

Geology on Mars

## Core units



19 Lessons

Plate Motion

## Engineering Internships



10 Lessons

Plate Motion Engineering Internship

# Middle school unit resources



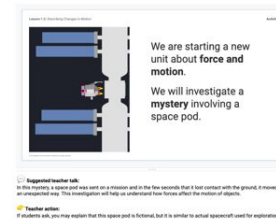
Investigation  
Notebooks or digital  
student experience



Articles  
(digital or print)



Simulations and other  
digital tools



Classroom Slides



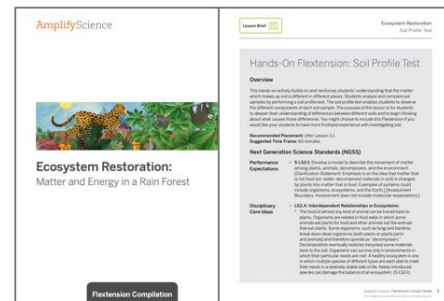
Teacher's Guide  
(digital or print)

ACTIVITIES	LEVELS
25/06 5:28 PM Wed. 0/100%	0
25/06 5:00 PM Wed. 0/100%	2 missing
25/06 4:57 PM Wed. 0/100%	0
25/06 3:42 PM Thu. 0/100%	0

Assessments and  
Reporting





Hands-on and print  
materials




Hands-on Flexextensions

# Middle School Online Component

Warm-Up Assign in Google  

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Students record and discuss their initial ideas about what might be causing Elisa to feel tired.  
(5 min)  INSTRUCTIONAL GUIDE

Step-by-step Teacher Support Possible Responses My Notes

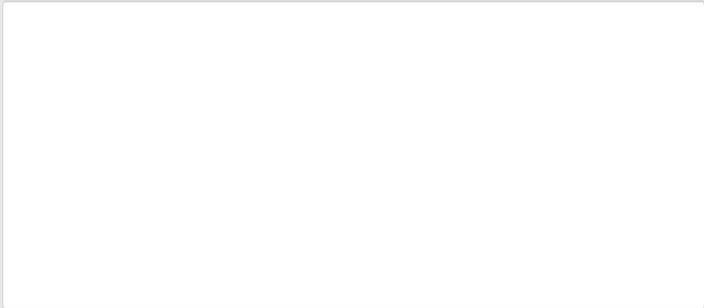
**1. Project Warm-Up questions and review routine.** Collapse the instructional guide and project the student screen, or have students turn to page 6 in their Investigation Notebooks. Explain that at the beginning of every lesson, there will be a prompt (a question or an activity) for students to complete independently that will help them begin to think about the science ideas they will learn. Point out that today, they will answer questions about the video they just watched.


**2. Have students work independently.** Give students a few minutes after the video is finished to individually respond to the Warm-Up activity. Circulate and offer support, as needed.

**3. Invite students to share their responses with a partner.** When most students are done with the activity, prompt them to share their ideas about Elisa's symptoms with their partners.

Warm-Up

Why do you think your new patient, Elisa, is feeling tired all the time? Explain your ideas.





# 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!

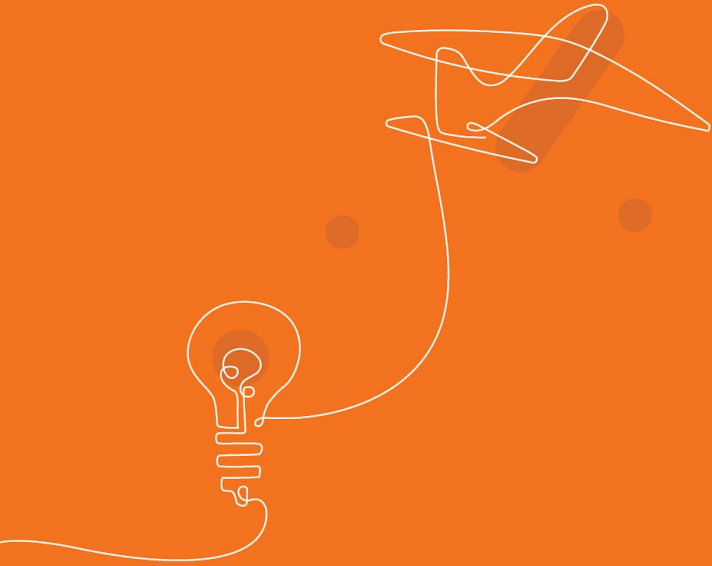


## Additional Unit Materials

Additional resources to complement the units you're teaching.



# Science and Engineering Practices





# Earth, Moon, and Sun ✨



# Earth, moon, Sun

## **Unit Phenomena:**

Students take on the role of student astronomers, advising an astrophotographer who needs to take photographs of the Moon. In order to provide this advice, students investigate where the Moon's light comes from, what causes the characteristic changes in the appearance of the Moon that we observe, and what conditions are required to view phenomena such as particular moon phases and lunar eclipses.

**Anchor Phenomenon:** An astrophotographer can only take pictures of specific features on the Moon at certain times.

**Student Role:** Students play the role of student astronomers who must learn about the Earth, Moon, Sun system, including phases and eclipses, in order to advise an astrophotographer who is photographing Moon features.

# Earth, Moon, Sun SEP's

As with all Amplify Science units, the *Earth, Moon, and Sun* unit provides students with exposure to most of the science and engineering practices described in the Next Generation Science Standards. This unit particularly emphasizes the following practices:

- **Practice 1: Asking Questions.** As students investigate what causes lunar phases and lunar eclipses, they 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 use the moon spheres as a hands-on model of the Earth, Moon, and sun system. They participate in many activities devoted to exploring and investigating a simulation that models sunlight, the Moon's orbit around Earth, and the entire system. Students also use a digital modeling tool to create models that show their ideas about lunar phases and lunar eclipses.
- **Practice 3: Planning and Carrying Out Investigations.** Students use a digital simulation to investigate phenomena related to the many ways the Moon can appear when observed from the Earth, including how it is illuminated, why it has repeated phases, and how eclipses happen.
- **Practice 4: Analyzing and Interpreting Data.** Students analyze visual representations of the Moon in different phases as well as the Moon's position with respect to Earth and the sun in order to determine the lunar phases.
- **Practice 6: Constructing Explanations.** Students learn about scientific explanations and have multiple opportunities to make increasingly complex explanations (and defend them through argumentation) over the course of the unit as they explain what causes lunar phases and lunar eclipses.
- **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 have multiple opportunities to engage in Active Reading, an approach to obtaining information from science texts. Students also evaluate evidence to determine its relevance to a particular claim.

# Earth, Moon, Sun

## Multiples Modalities

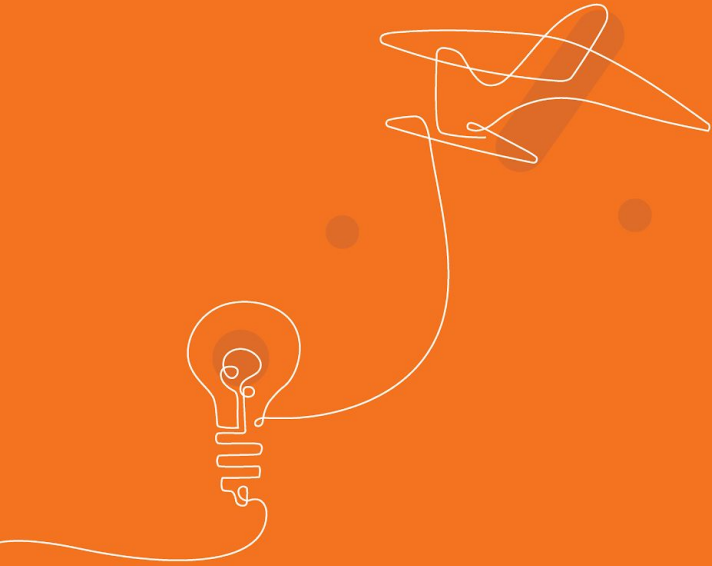
- **Do.** Students use a simple physical model with foam balls to explore how the view of the Moon from Earth changes as the Moon orbits. Multiple uses of the *Earth, Moon, and Sun* Simulation focus students on how scale must always be considered when considering large objects and distances.
- **Talk.** Multiple opportunities are provided for student-to-student discussion to engage the class in reflecting on scale in the Earth, Moon, and sun system.
- **Write.** In their writing, students must translate their ideas from models that are mostly not to scale in order to describe their understanding of the full scale of the Earth, Moon, and sun system.
- **Visualize.** Students represent their ideas about scale by creating visual models in the *Earth, Moon, and Sun* Modeling Tool.

# Plan for the day



- Framing the day
  - Welcome and introductions
- Shifts in Science Instruction
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  - 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

# Science and Literacy





# Embedded Literacy Supports

### Welcome

Program developers

Designed for the NGSS

Program components

Scope and Sequence

Phenomena, standards, and progressions

Assessments

Science and literacy



Access and equity

Resources

# 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](tel:1-800-823-1969)

[scihelp@amplify.com](mailto:scihelp@amplify.com)

More Amplify Science

[Transitional Kindergarten \(TK\)](#)

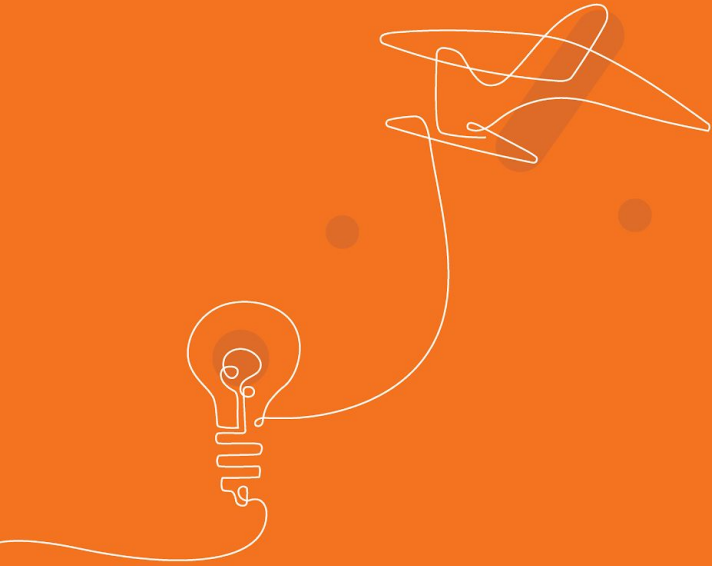


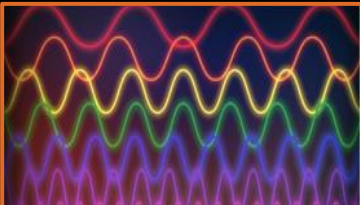




# Embedded Literacy Strategies

# 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

# Reflect and Share

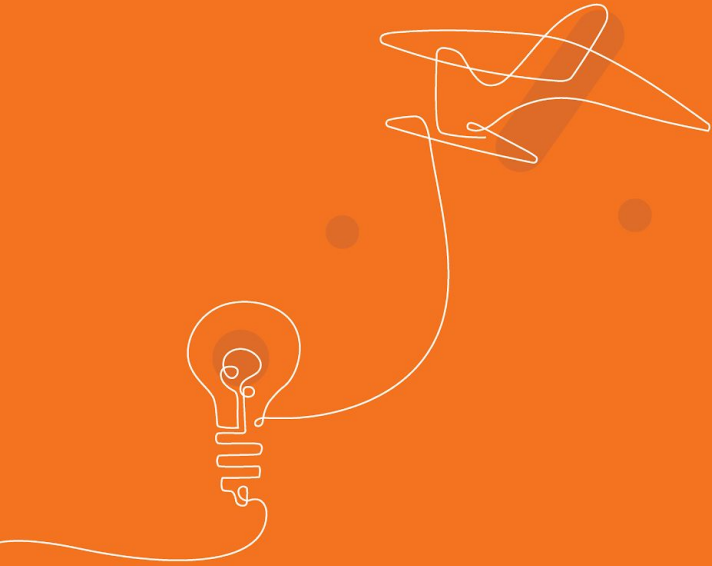
- What has been a challenge of reading in Amplify Science in your classroom? What has been a success?
- What strategies do you use to engage and support your students with reading in Amplify Science while teaching remotely?

# 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



# A typical Active Reading sequence

First Read

Independent,  
followed by  
paired and  
whole class  
discussion

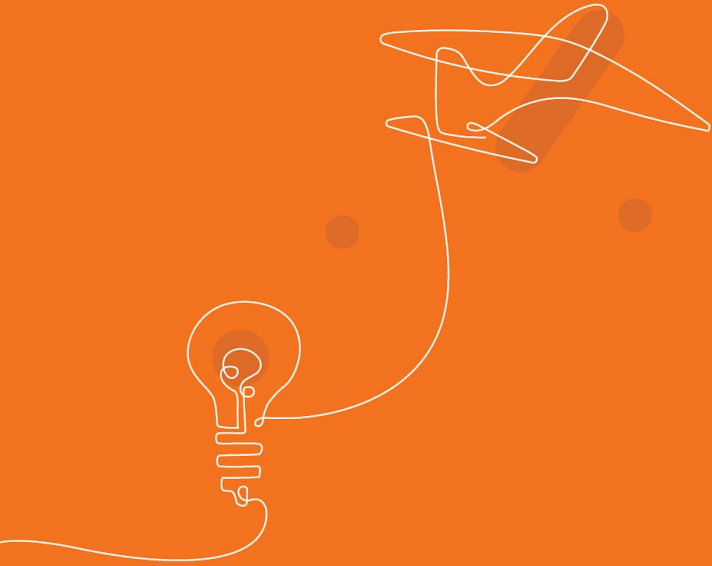
Second Read

Reading for a  
teacher-directed  
purpose, followed  
by a paired,  
complementary  
activity

Third Read

Diving into the  
text for other,  
content-related  
purposes

# Active Reading Components





# A typical Active Reading sequence

First Read

Independent,  
followed by  
paired and  
whole class  
discussion

Second Read

Reading for a  
teacher-directed  
purpose, followed  
by a paired,  
complementary  
activity

Third Read

Diving into the  
text for other,  
content-related  
purposes

# Text Roles/Functions for Inquiry-Based Investigations

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

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 Earth, Moon and Sun
- 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

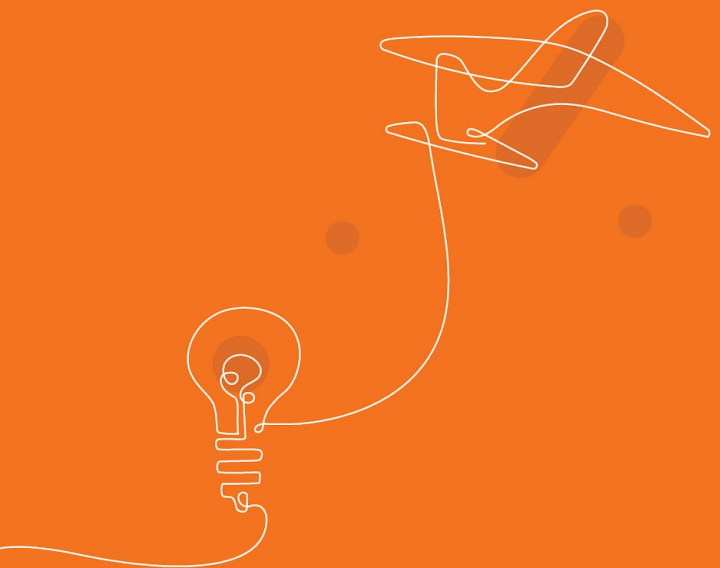
Directions:

- 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

Amplify.



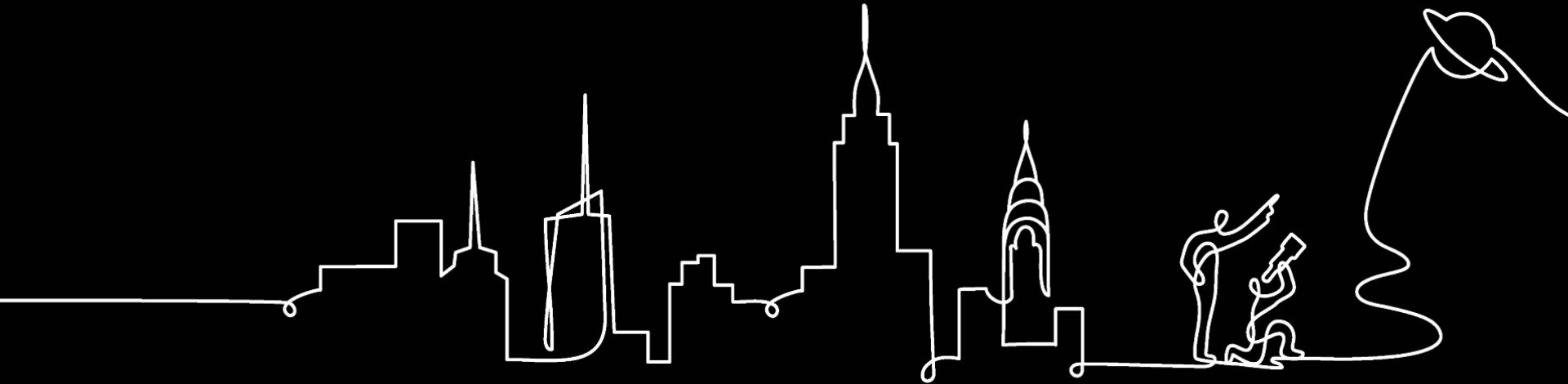
# Writing

# 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

### Scientific Argument



\*

### Reasoning Tool

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

\*

### 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?

\*

### Evidence Gradient



\*

### Example Student Arguments

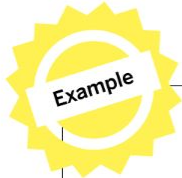
# Reasoning Tool

<b>Evidence</b>	<b>This matters because . . .</b> (How does this evidence support the claim?)	<b>Therefore, . . .</b> (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
<del>Sample Evidence Card B</del>	<del>Your ideas about how the evidence supports the claim</del>	
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 <ul style="list-style-type: none"><li>● How will the student find this useful?</li></ul>	Purpose for the teacher <ul style="list-style-type: none"><li>● How will you find this helpful?</li></ul>

# 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

# Science Seminar Claims

**Claim 1: Yes there will probably be a lunar eclipse.**

**Claim 2: No, there probably won't be a lunar eclipse.**

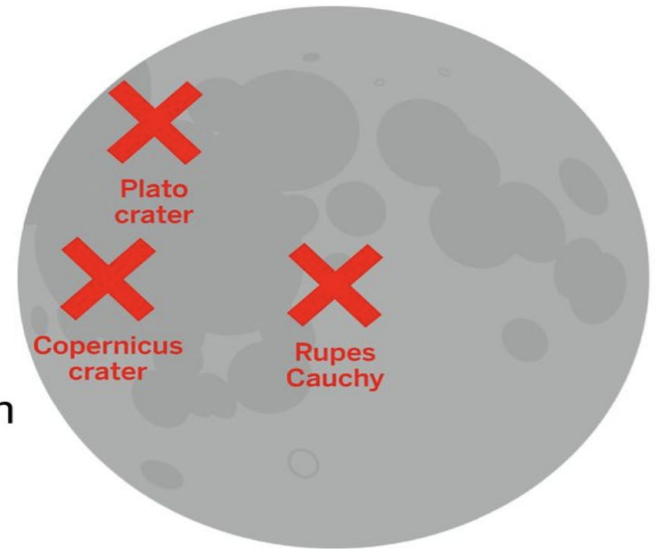
**To:** Student Astronomers  
**From:** Eric Wu, Astrophotographer  
**Subject:** Taking Pictures of the Moon

---

Thanks for helping me with my assignment! As you know, the editors of *About Space* magazine have asked me to photograph three famous features on the surface of the Moon. (See the attached graphic.)

I can't wait to start taking pictures, but I want to make sure I take them at the right time. I've heard the best time to take pictures of Moon features is when they are near the *terminator*, the border between light and dark on the Moon.

Does that mean that I can take these pictures on any clear night? Or, can I only take these pictures on some nights? Thanks for helping me out!



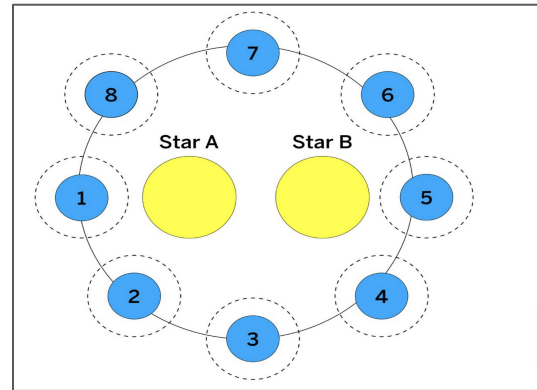
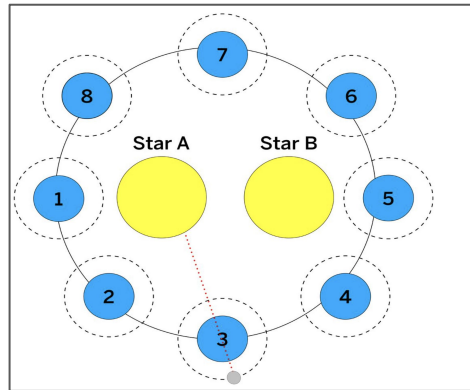
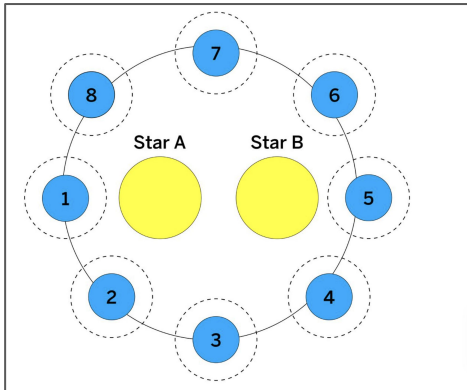
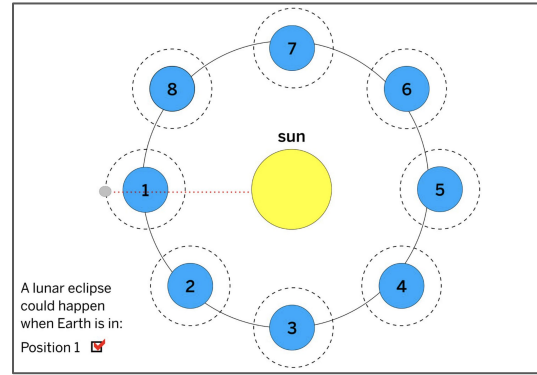
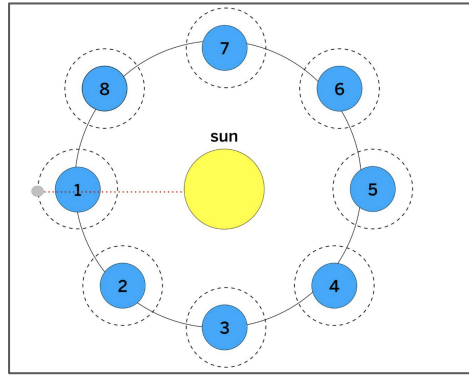
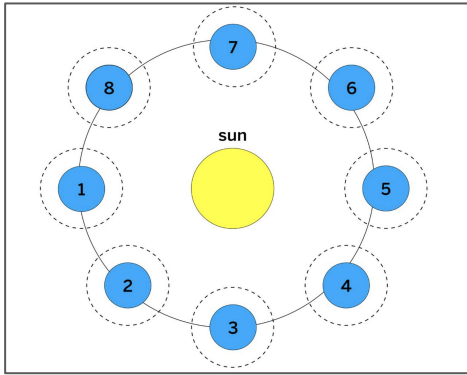
# The Subject of the Seminar

## Introducing Kepler-47c



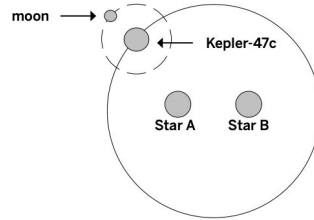
- Kepler-47c is a planet located in Cygnus, a constellation that we can see from Earth's northern hemisphere during summertime.
- Kepler-47c is about five times the size of Earth.
- Earth orbits one star (the sun); Kepler-47c orbits two stars. These stars are about the same size as the sun.
- The moon of Kepler-47c is a sphere. Like all moons, it does not make its own light.

# Moon Orbiting



# Analyzing Evidence

## Card A: The Orbit of Kepler-47c



- Kepler-47c orbits around both Star A and Star B.

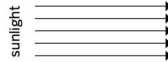
- Kepler-47c's moon orbits around Kepler-47c.

(Note: This model is of Top View. This model is not to scale.)

## Card B: Tilt of Orbit



Earth's Moon has a tilted orbit.



Most of the moons in our solar system have orbits with almost no tilt.

Astronomers do not know whether Kepler-47c's moon orbit is tilted or not.

## Card C: Moon Orbits Per Year

A **year** is the amount of time it takes for a planet to complete one orbit around a star or stars. In one year, some moons make many orbits around their planets, while other moons make only a few orbits.

Name	Orbits per year	Lunar eclipses per year
The Moon (orbits Earth)	12	about 2
Deimos (orbits Mars)	550	more than 100

Astronomers do not know how many orbits Kepler-47c's moon makes around Kepler-47c per year.

# Sorting Evidence

## Sorting the Evidence

1. Place the Science Seminar Question at the top of your desk.
2. Place the two claims, side-by-side, underneath the question.
3. With a partner, discuss whether each piece of evidence supports or goes against the claims. Use the sentence starters below to help you discuss this with your partner.
4. Make annotations on each card.
  - If the evidence supports a claim, write “supports Claim 1 or 2” on that card.
  - If the evidence goes against a claim, write “goes against Claim 1 or 2” that card.
  - If the evidence connects with another evidence card, write “connects with Evidence Card A, B, or C” on that card.
5. Sort the evidence by placing the cards under the claim they support.

### Sentence Starters

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



# Preparing a Seminar Argument

## Scientific Argument Sentence Starters

### Describing evidence:

The evidence that supports my claim is . . .

My first piece of evidence is . . .

Another piece of evidence is . . .

This evidence shows that . . .

### Describing how the evidence supports the claim:

If \_\_\_\_\_, then . . .

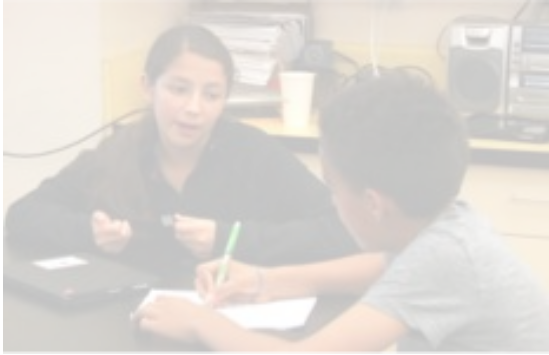
This is important because . . .

Since \_\_\_\_\_, . . .

Based on the evidence, I conclude that . . .

This claim is stronger because . . .

# Science Seminar Sequence



Considering claims  
and evidence



Participating in the  
Science Seminar



Writing an argument

# Science Seminar expectations

Students are expected to:

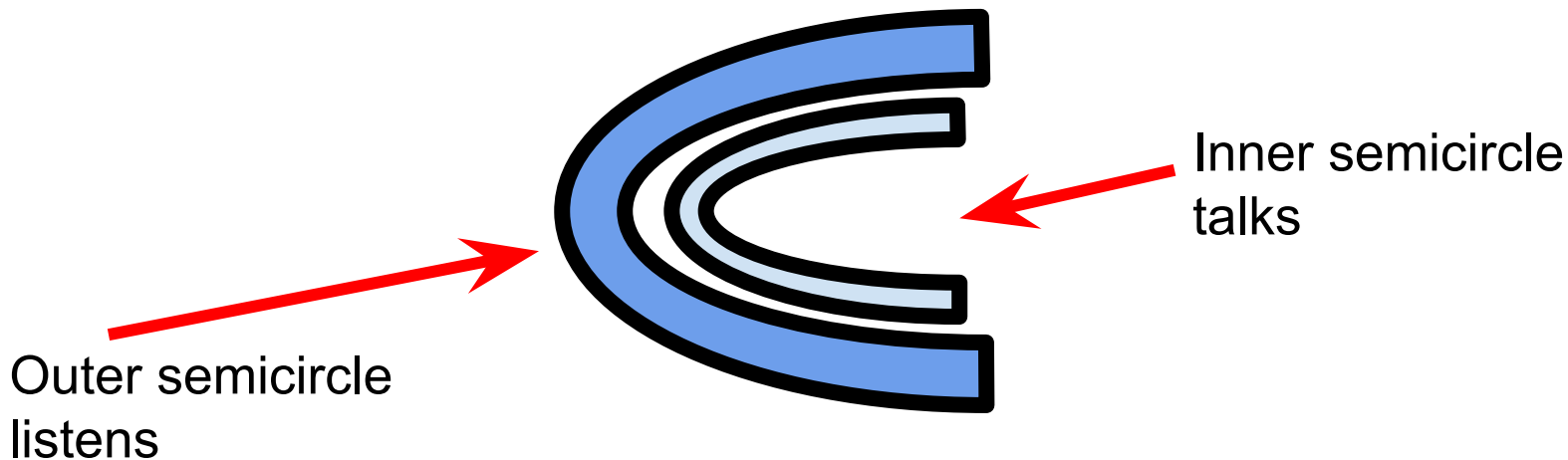
- Run the conversation.
- Use evidence to support ideas.
- Explain their thinking.
- Listen to one another.
- Respond to one another.
- Be open to changing their minds.



# 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...

## Participating in the Science Seminar

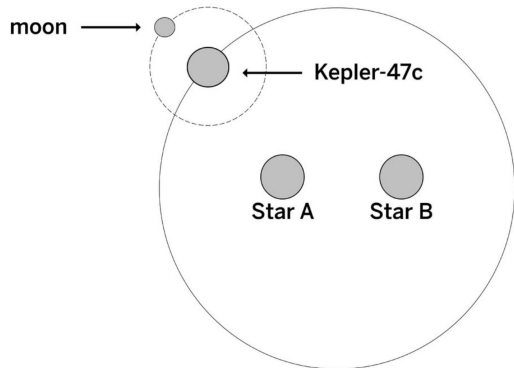
If you are in the inner circle, it is your turn to talk about the Science Seminar Question and Claims. If you are in the outer circle, it is your turn to observe and listen. Use your Science Seminar Observations sheet to record what you observe.

During a year, will there be a lunar eclipse of the moon of Kepler-47c?

**Claim 1:** Yes, there probably will be a lunar eclipse.

**Claim 2:** No, there probably won't be a lunar eclipse.

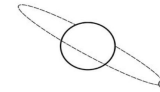
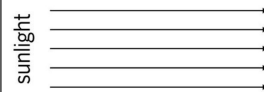
### Card A: The Orbit of Kepler-47c



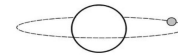
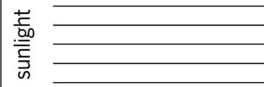
- Kepler-47c orbits around both Star A and Star B.
- Kepler-47c's moon orbits around Kepler-47c.

(Note: This model is of Top View. This model is not to scale.)

### Card B: Tilt of Orbit



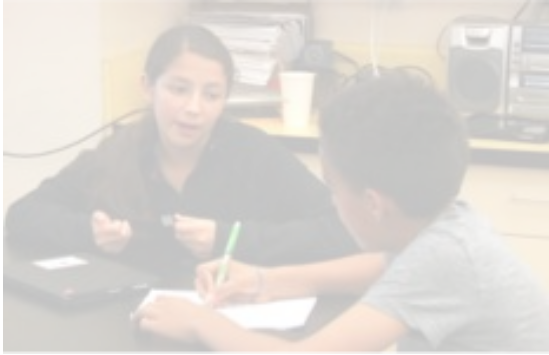
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# Science Seminar Sequence



Considering claims  
and evidence



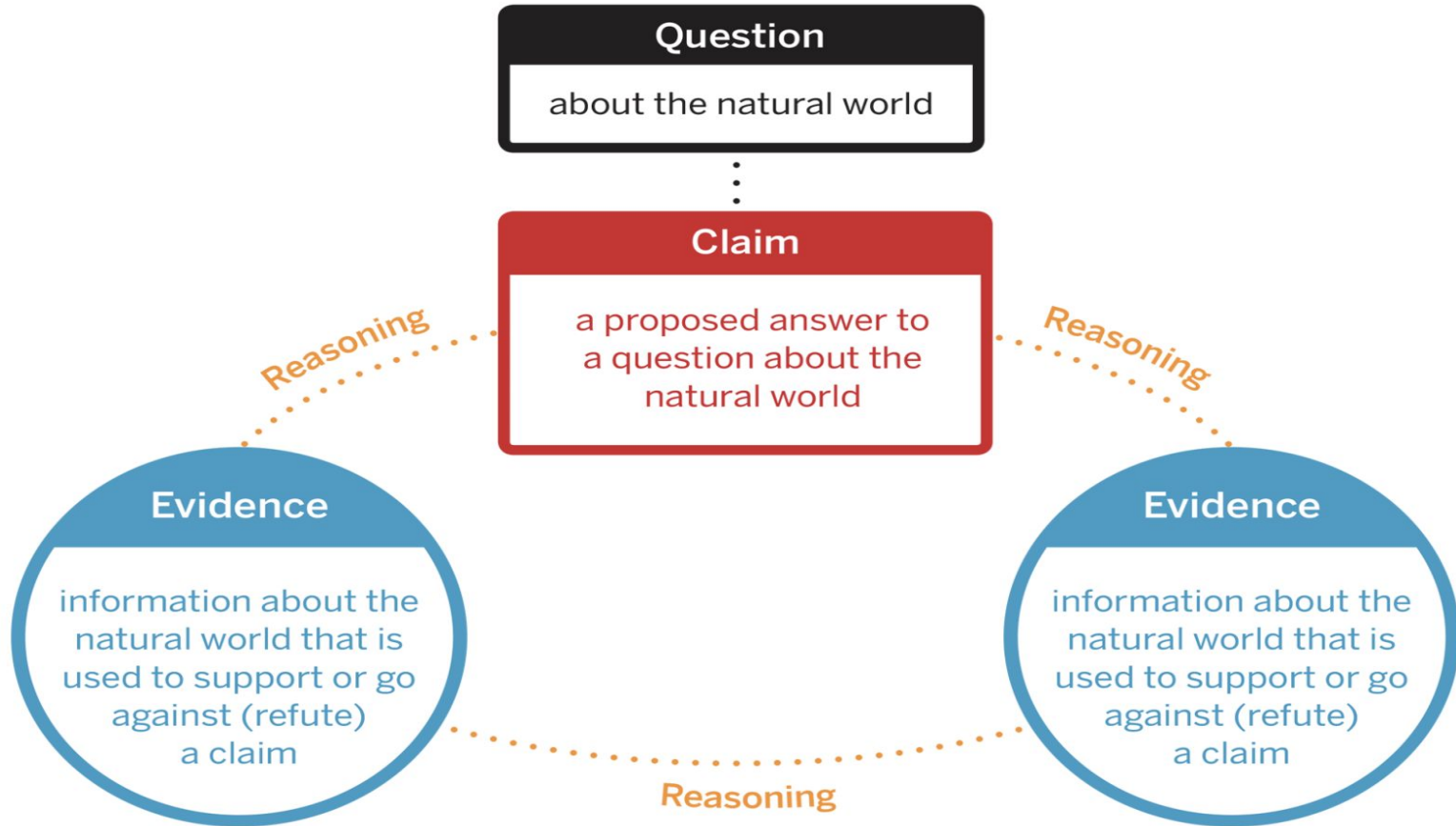
Participating in the  
Science Seminar



Writing an argument



# Scientific Argument

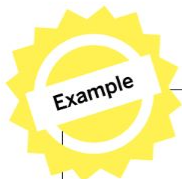


# Using the Reasoning Tool to Support Your Claim



EMBEDDED  
FORMATIVE  
ASSESSMENT

- 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
<del>Sample Evidence Card B</del>	<del>Your ideas about how the evidence supports the claim</del>	
Sample Evidence Card C	Your ideas about how the evidence supports the claim	

# Writing an Argument Using the Reasoning Tool

## **State your claim.**

- There will probably be a lunar eclipse because . . .
- There probably won't be a lunar eclipse because . . .

## **Describe the evidence.**

- One evidence card showed . . .
- Another evidence card said . . .

## **Explain how the evidence supports the claim.**

- Together, this evidence shows that . . .

# Scientific Argument Sentence Starters

## Describing evidence:

The evidence that supports my claim is . . .

My first piece of evidence is . . .

Another piece of evidence is . . .

This evidence shows that . . .

## Describing how the evidence supports the claim:

If \_\_\_\_\_, then . . .

This is important because . . .

Since \_\_\_\_\_, . . .

Based on the evidence, I conclude that . . .

This claim is stronger because . . .



# Science Seminar Reflection

How do students use literacy practices to:

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



Considering  
claims & evidence



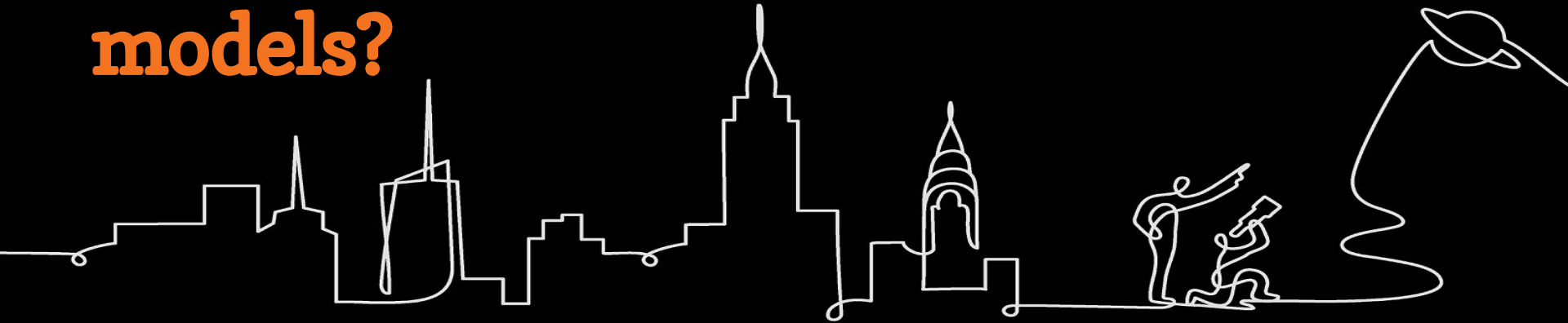
Participating in the  
Science Seminar



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



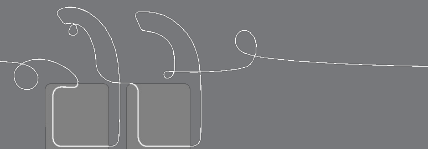
# Plan for the day

- 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



# 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

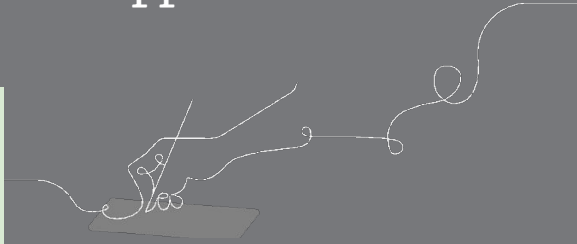
Do you feel ready to...

- 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!



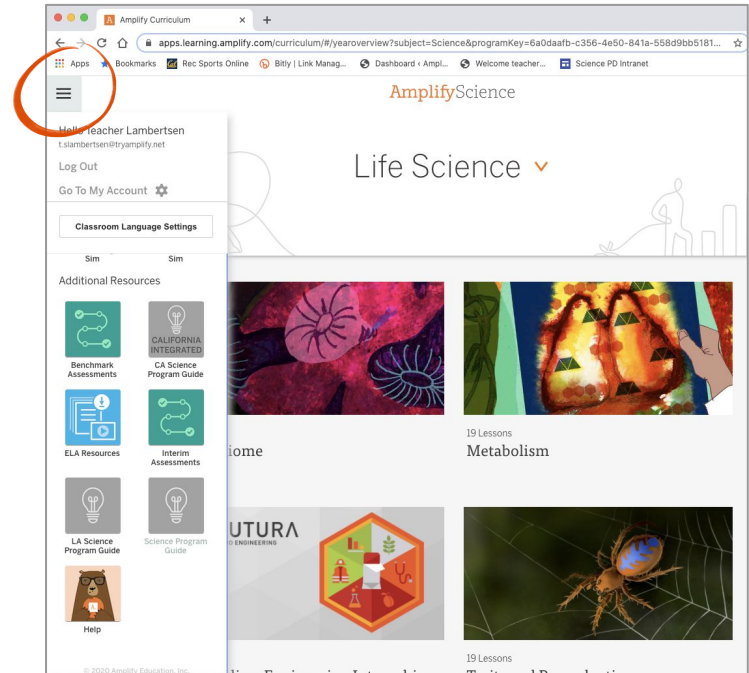


# Amplify Science Program Hub

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](https://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)



THE LAWRENCE  
HALL OF SCIENCE  
UNIVERSITY OF CALIFORNIA, BERKELEY

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

[Educator Spotlight Submission](#)

[20-21 Login Update](#)

[Professional learning opportunities](#)

[Introduction](#)



Contact Us

86

Started resources

### 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](https://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.