Amplify Science

New York City

Guided Unit Internalization Ocean, Atmosphere, and Climate

Who's in the Room?

Represent for your Borough!

Share your name, role, borough.

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

Workshop Norms

- Please keep your camera on, if possible.
- Take some time to orient yourself to the platform

- 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

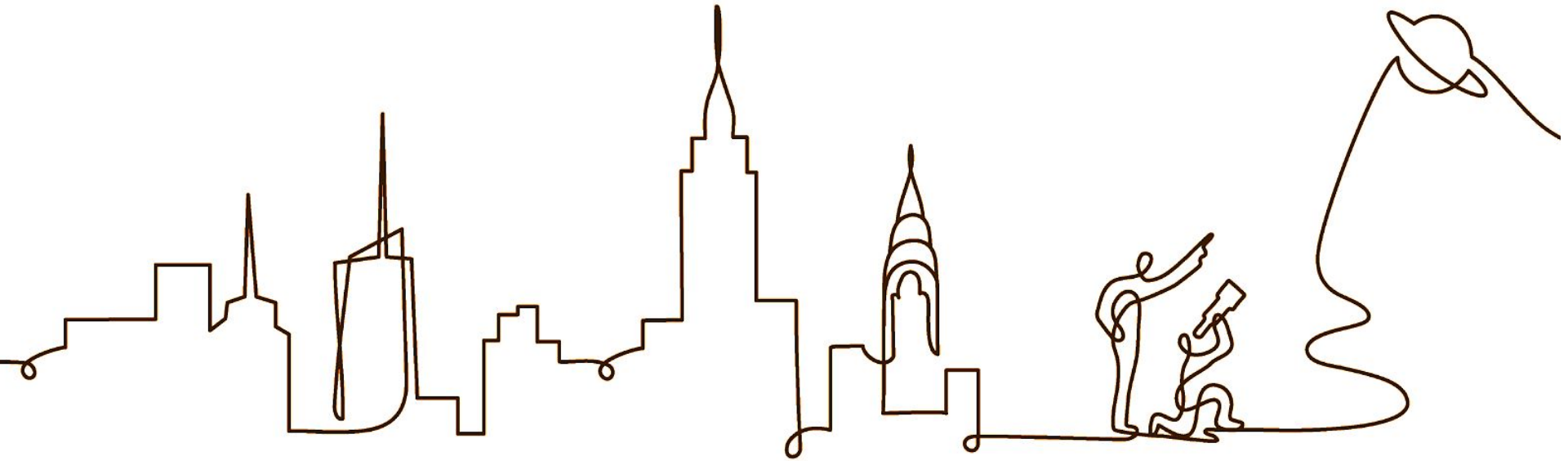
- Be an active participant - chat, ask questions, discuss, share!

Workshop Goals

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

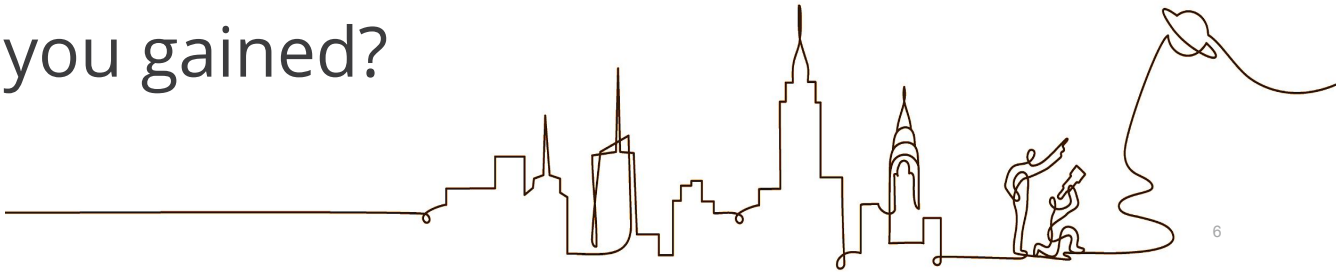
- **Make instructional decisions about remote or hybrid learning**
- **Develop a plan for using @Home resources within your class schedule and instructional format.**

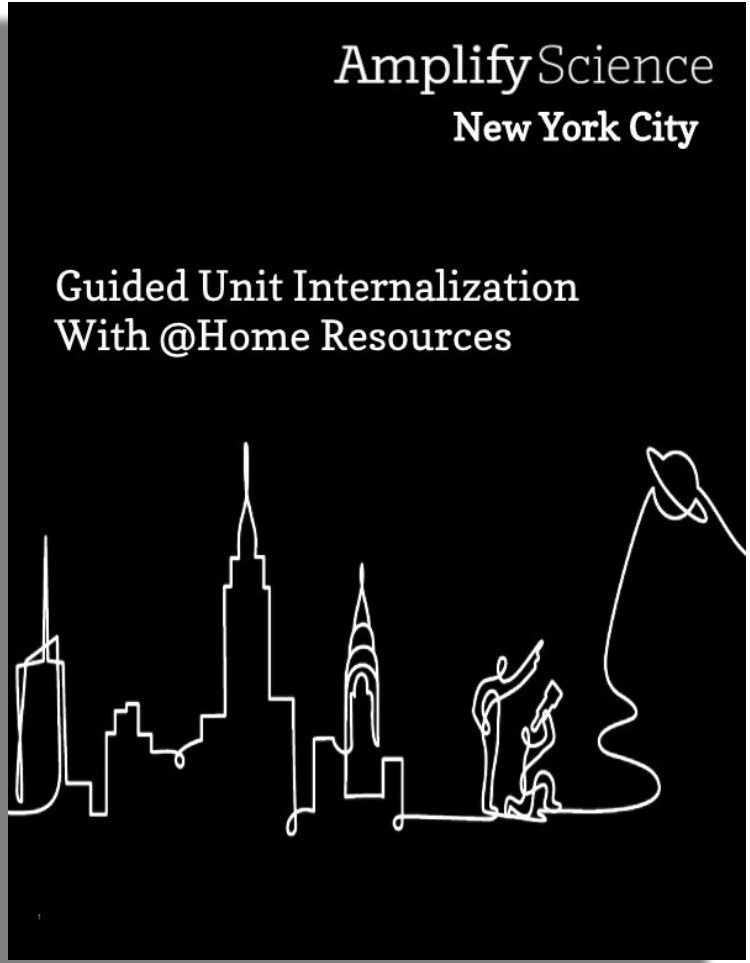
Reflection and Goal Setting

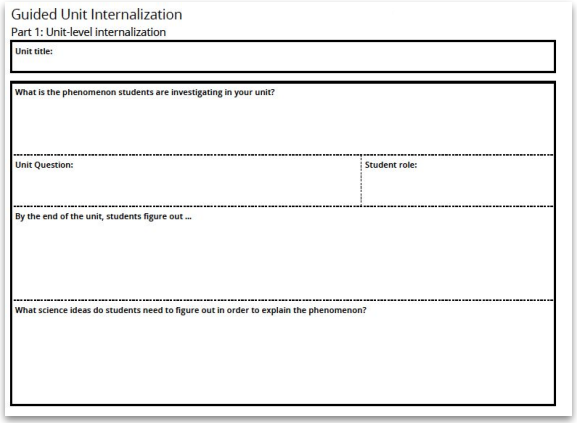


Reflect- then in chat **Choose One**: While teaching through new instructional models (Hybrid/Remote)

- What is **one** challenge, problem, or roadblock you or your students experienced?
- What are **two** successes you or your students experienced?
- What are **three** new things you learned or new insights you gained?







Guided Unit Internalization

Part 1: Unit-level internalization

Unit title:	
What is the phenomenon students are investigating in your unit?	
Unit Question:	Student role:
By the end of the unit, students figure out ...	
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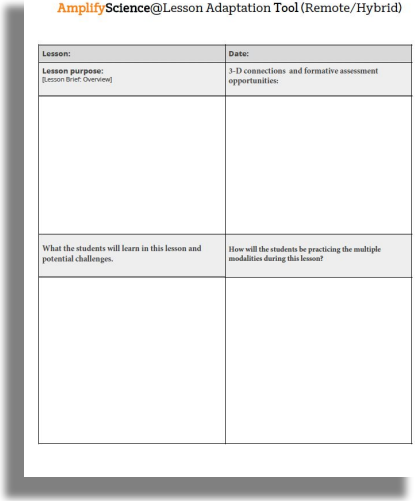


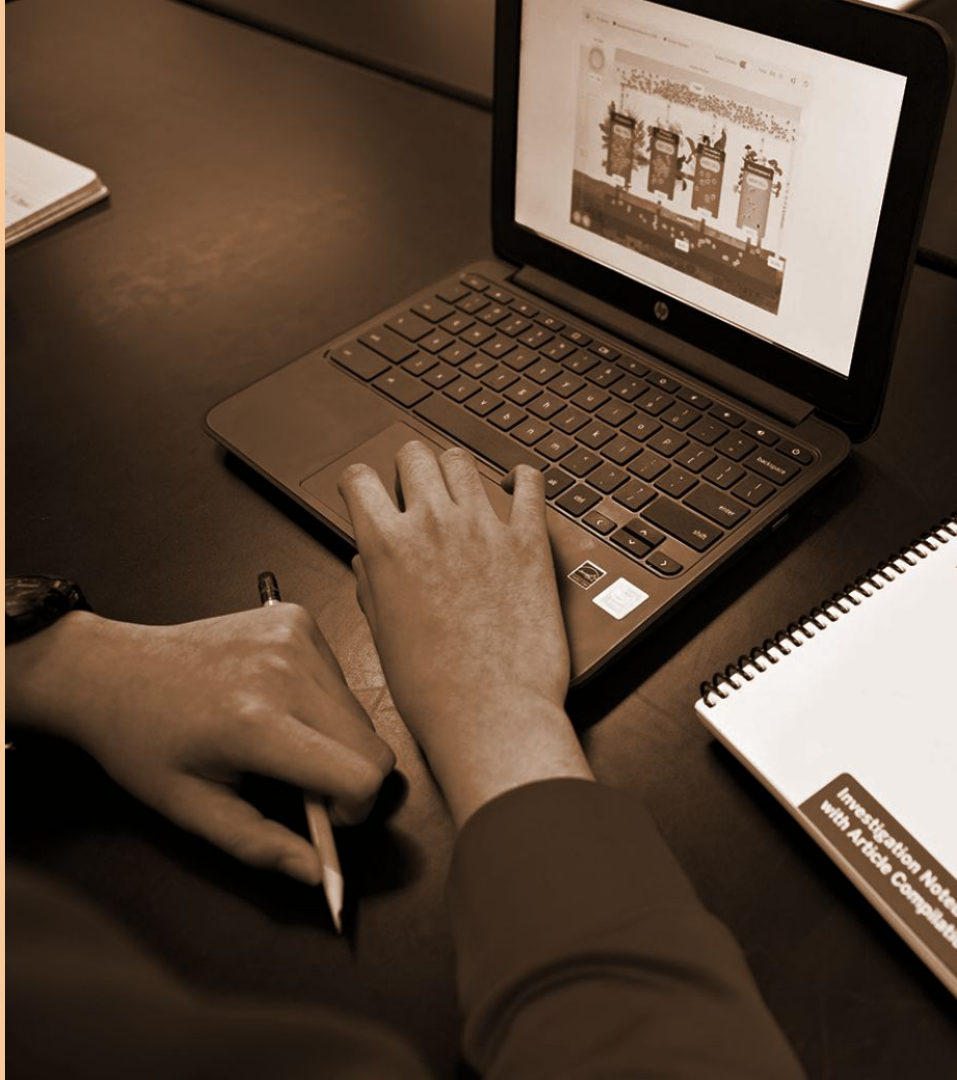
AmplifyScience@Lesson Adaptation Tool (Remote/Hybrid)

Lesson:	Date:
Lesson purpose: [Lesson Brief: Overview]	3-D connections and formative assessment opportunities:
What the students will learn in this lesson and potential challenges.	How will the students be practicing the multiple modalities during this lesson?

Participant Materials

Plan for the day

- **Framing the day**
- Unit Internalization
- Amplify Science @Home
- Planning
- Reflection and closing



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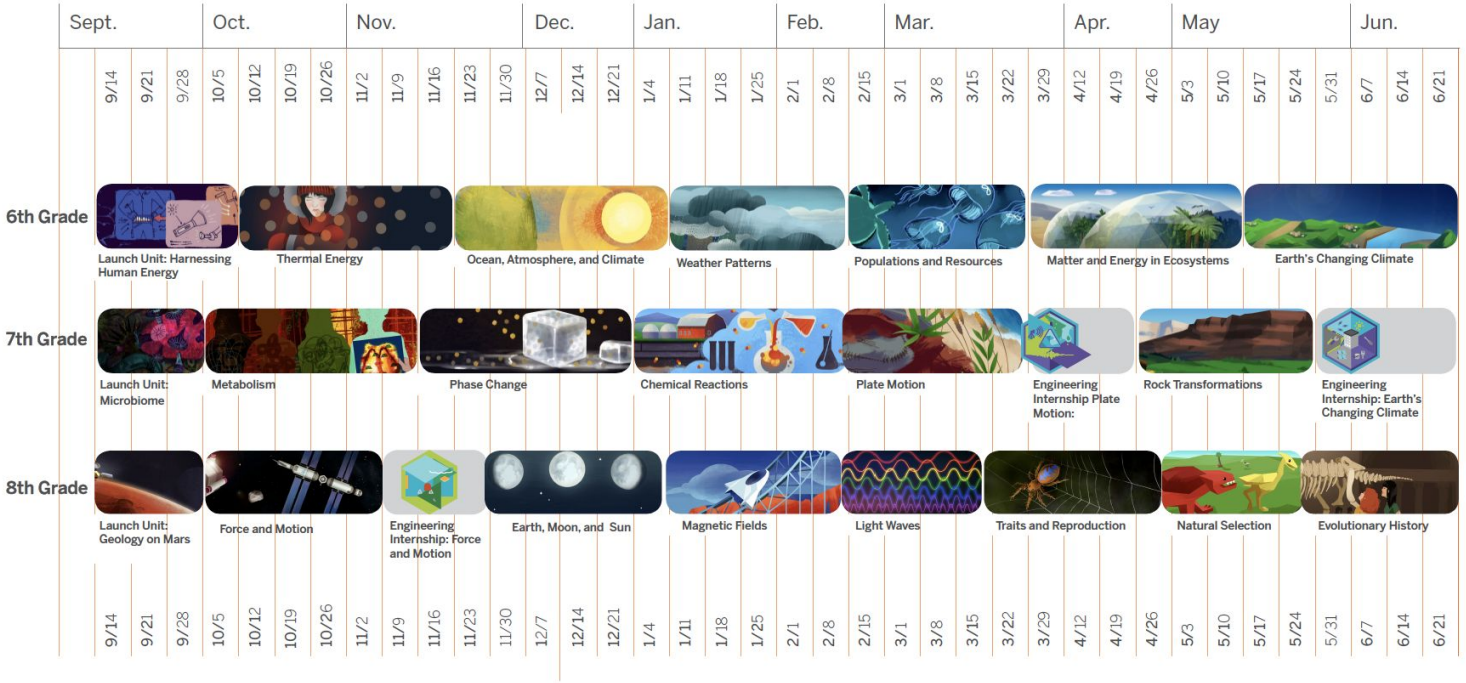
NYC Middle School
Unit Pacing Calendar 20-21*



*Updated Sequence for the 2020-2021 School Year

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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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Unit	@Home Unit Release	@Home Videos Release
Chemical Reactions	January 15	December 11
Earth's Changing Climate	March 13	March 26
Earth, Moon, and Sun	January 10	December 11
Evolutionary History	February 26	March 26
Light Waves	December 17	October 26
Magnetic Fields	November 15	N/A (already posted)
Matter and Energy in Ecosystems	March 21	March 26
Natural Selection	February 20	February 12
Ocean, Atmosphere, and Clime	January 17	December 11
Phase Change	December 19	October 26
Populations and Resources	February 20	February 12
Rock Transformations	November 6	N/A (already posted)
Thermal Energy	December 13	October 26
Traits and Reproduction	November 4	N/A (already posted)
Weather Patterns	February 17	February 12

Amplify Science@Home Schedule

Written by Amplify
Updated over a week ago

@Home Resources Release Dates

https://my.amplify.com/help/en/articles/4562101-amplify-science-home-schedule

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Classroom Slides Release Dates

https://my.amplify.com/help/en/articles/4004263-amplify-science-classroom-slides-for-grades-6-8

1st and 2nd unit of each grade: August 2020

- Microbiome
- Geology on Mars
- Harnessing Human Energy
- Metabolism
- Plate Motion
- Force and Motion

3rd unit of each grade: September 2020

- Metabolism Engineering Internship
- Plate Motion Engineering Internship
- Force and Motion Engineering Internship

4th unit of each grade: October 2020

- Traits and Reproduction
- Rock Transformations
- Magnetic Fields

5th unit of each grade: November 2020

- Thermal Energy
- Phase Change
- Light Waves

6th unit of each grade: December 2020

- Ocean, Atmosphere, and Climate
- Plate Motion Engineering Internship
- Earth, Moon, and Sun

7th unit of each grade: February 2021

- Weather Patterns
- Chemical Reactions
- Natural Selection

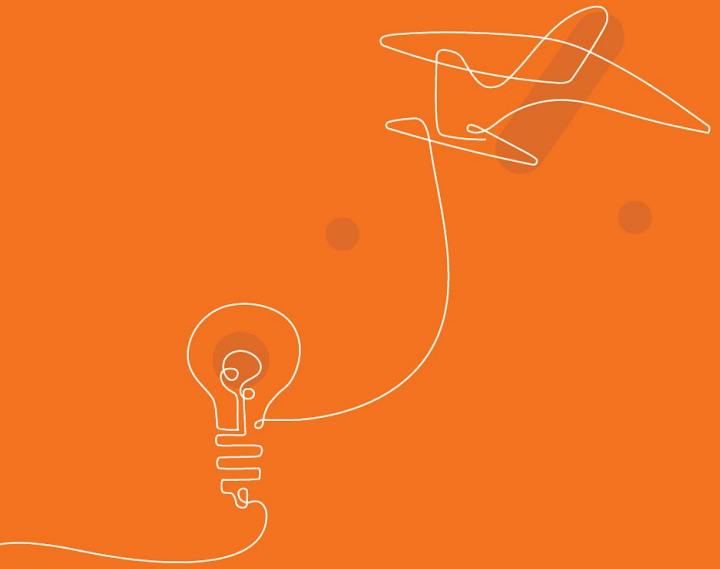
8th unit of each grade: March 2021

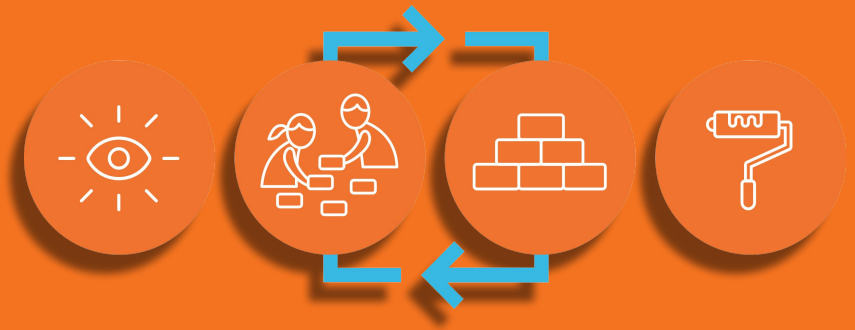
- Earth's Changing Climate
- Populations and Resources
- Natural Selection Engineering Internship

9th unit of each grade: April 2021

- Earth's Changing Climate Engineering Internship
- Matter and Energy in Ecosystems
- Evolutionary History

Revisiting the Amplify Science approach





Questions
Reflections
Connections

Unit 2 Planning Notes

Amplify Science Approach Review:

Note Taking Opportunities

A version of this presentation will be available to you. However, you may want to record some of the presenter's comments and suggestions from your colleagues!

The approach

Introduce a phenomenon/real world problem

Collect evidence from multiple sources

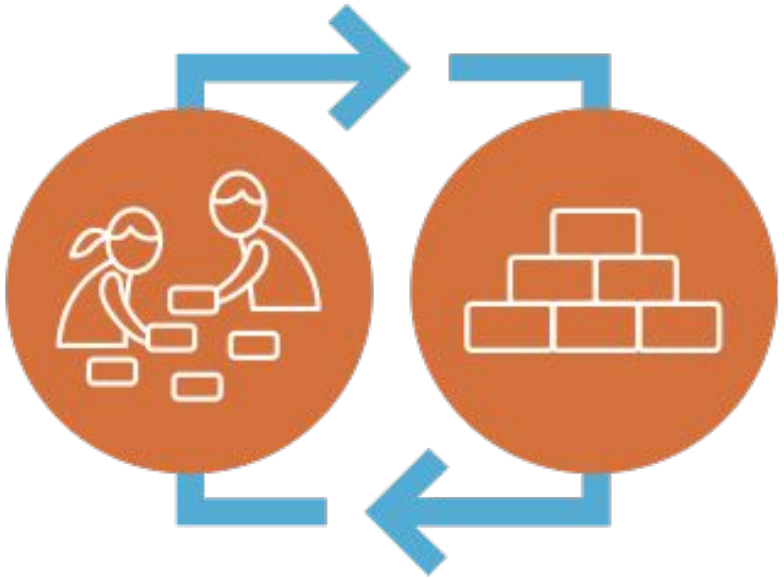
Build increasingly complex explanations

Apply knowledge to solve a different problem

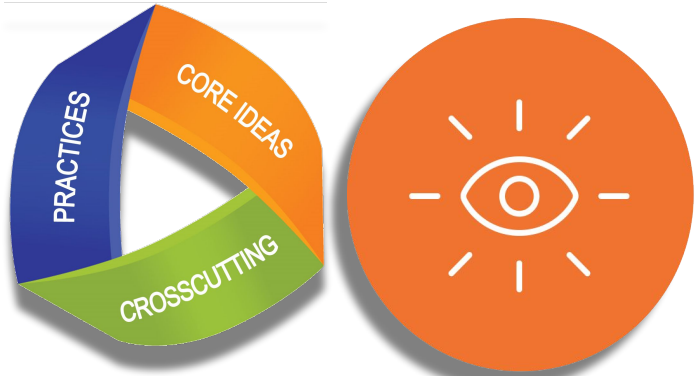
Multimodal Phenomenon-based approach

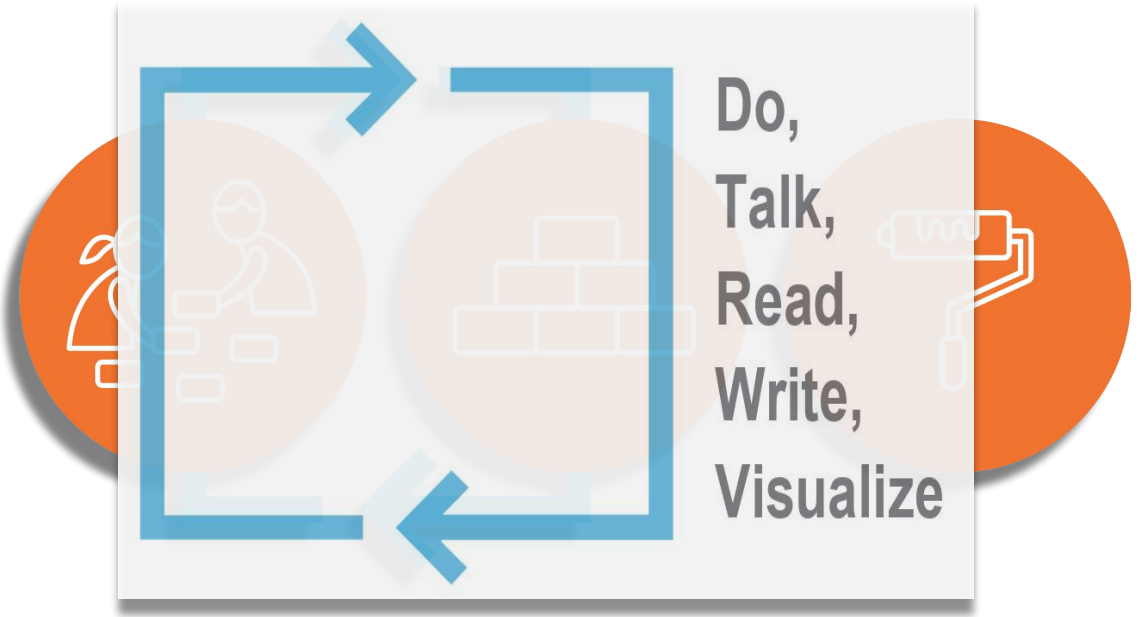
The anchor phenomenon drives instruction through a whole unit

Taking on the **roles** of scientists and engineers, students gather evidence and use it to build **increasingly complex explanations** about a rich, real-world anchoring phenomenon.



Using three dimensions to figure out





Questions?

Plan for the day

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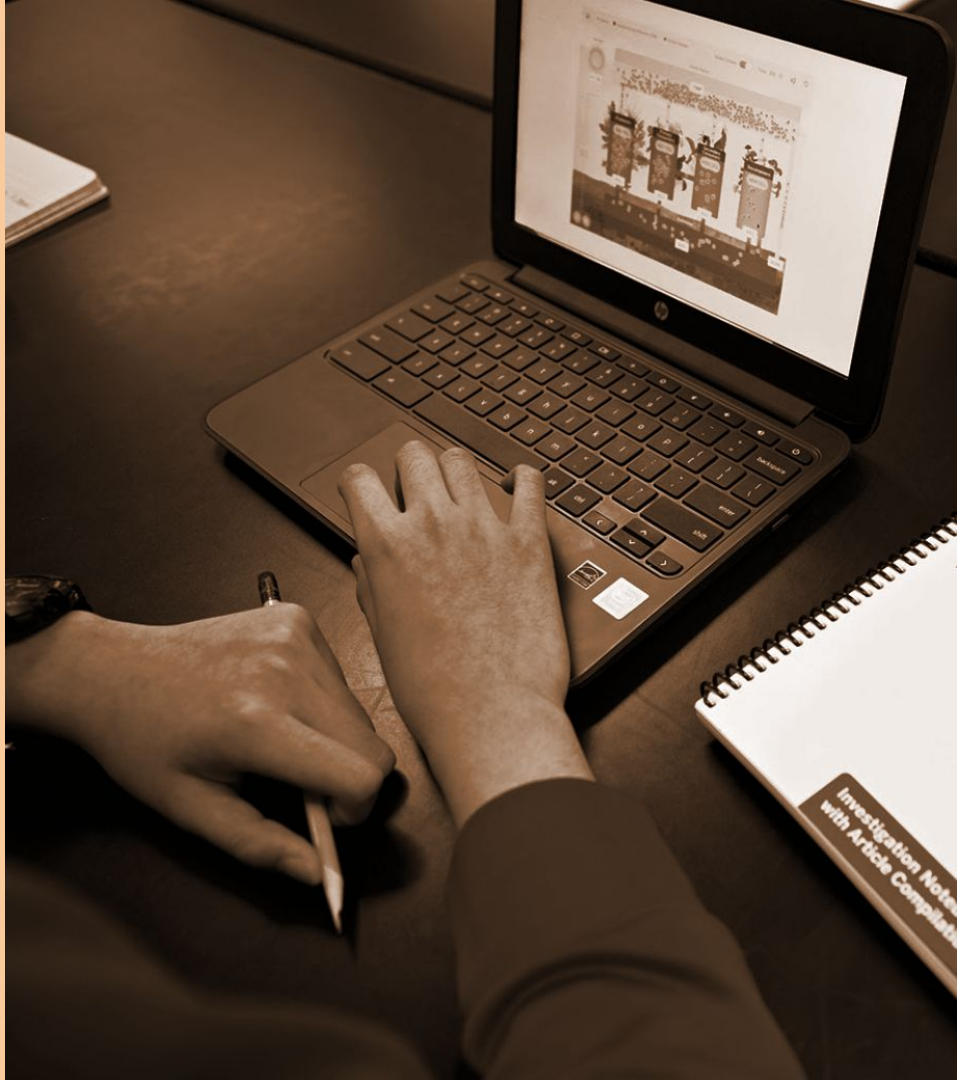
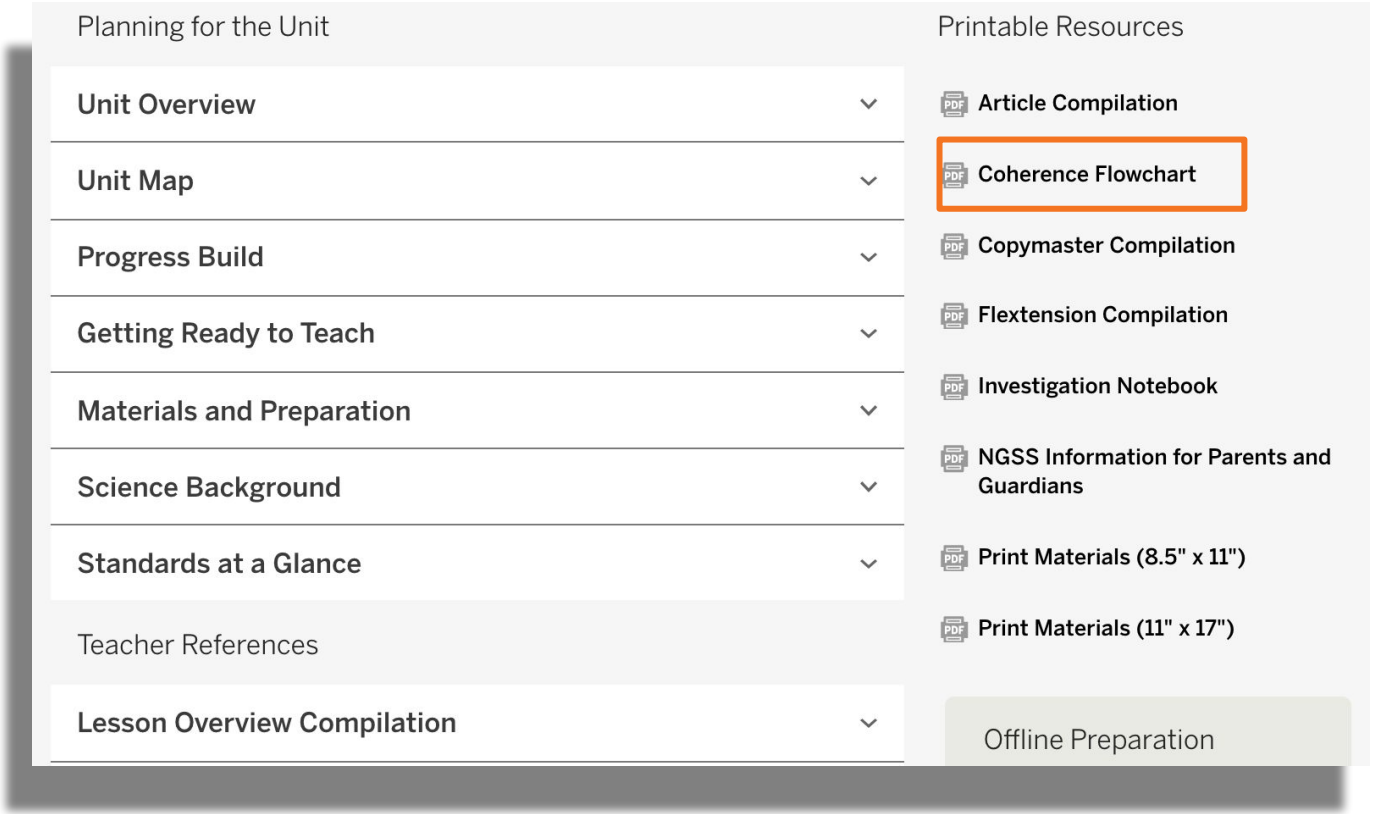


Anchor Phenomenon:

During El Niño years, Christchurch, New Zealand's air temperature is cooler than usual.

Where do you find all of the Unit Phenomena listed with Unit questions?



Ocean, Atmosphere, and Climate: Cold Years in New Zealand

The problem students work to solve

During El Niño years, why is Christchurch, New Zealand's air temperature cooler than usual?

Chapter 1 Question

What determines the air temperature of Christchurch, New Zealand?

Investigation Questions

How does air get energy? (1.3)

Why do different locations have different air temperatures? (1.4, 1.5)

Evidence sources and reflection opportunities

- Use the Sim to gather evidence about what causes the air temperature of a place to change (1.2)
- Set up a lamp heating experiment to compare the air temperature over a surface and the air temperature over no surface (1.3)
- Conduct a similar test to the lamp heating experiment in the Sim to gather more evidence that energy is not directly transferred to the air (1.3)

- Analyze energy and air temperature maps to figure out why different locations have different temperatures (1.4)
- Use the Modeling Tool to show why the Equator and South Pole have different air temperatures (1.4)

Key concepts

- Energy from the sun is transferred to Earth's surface. Some of that energy is then transferred to the air above the surface. (1.3)

- The closer a location is to the equator, the more energy it receives from the sun. Therefore, a location's air temperature is affected by its distance from the equator. (1.4)

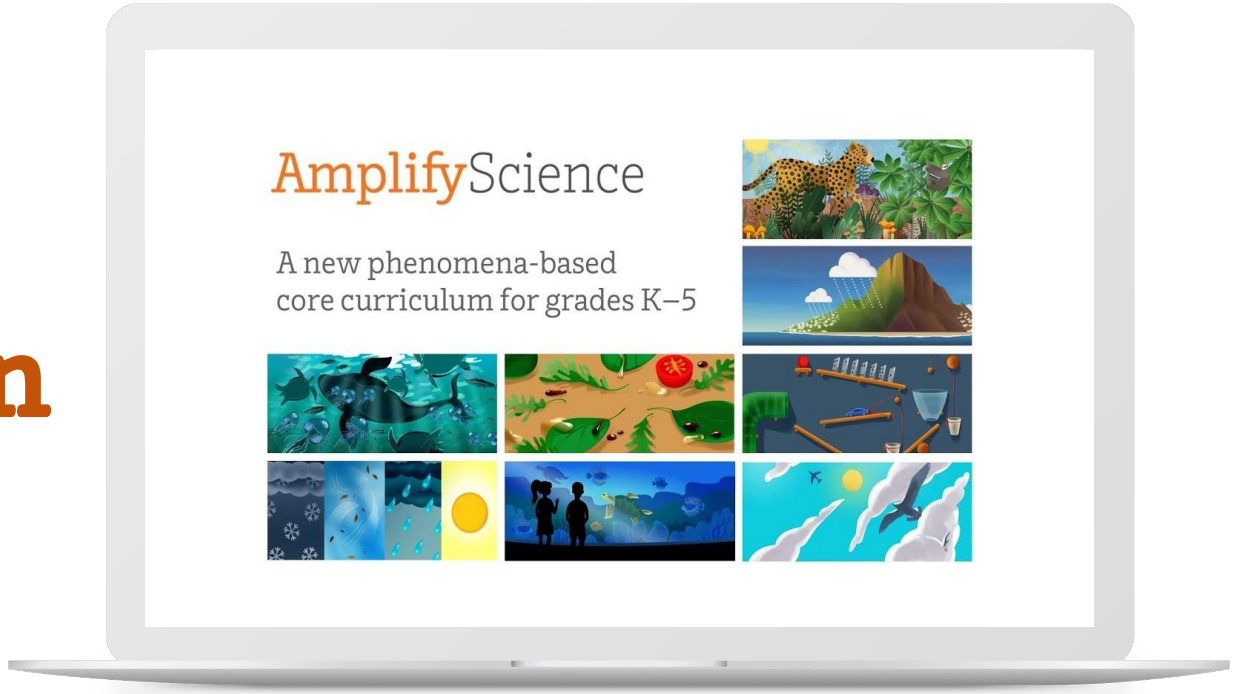
Application of key concepts to the problem

- Write and share to explain why the average air temperature of Christchurch is different from the air temperature is different from the air temperature at another location (1.5)
- Use data from bar graphs showing energy from the sun and average ocean surface temperature during normal years and El Niño years to refute the claim that Christchurch's air temperature is cooler because the amount of energy from the sun changes (1.5)

Explanation that students can make to answer the Chapter 1 Question

The air temperature of Christchurch is determined by how much energy is transferred to the air. Energy from the sun is transferred to the surface of Earth, and then to the air above the surface. The amount of energy that is transferred to the air in Christchurch is determined by its latitude. The closer to the equator a location is, the more energy from the sun is transferred to the surface and then to the air. The amount of energy from the sun does not change during El Niño years, so there must be another cause for the cooler air temperature.

Live Navigation



Guided Unit Internalization

Part 1: Unit-level internalization

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What is the phenomenon students are investigating in your unit?	
Unit Question:	Student role:
By the end of the unit, students figure out ...	
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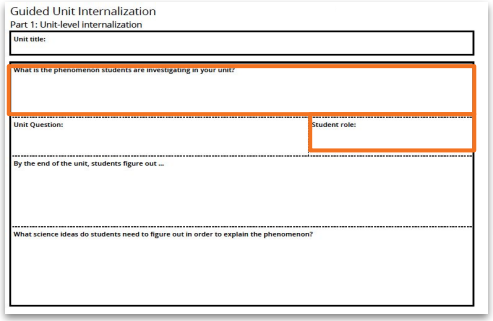
Guided Unit Internalization Document

What is the student role? What will students figure out in Chapter 1?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Planning for the Unit

- Unit Overview
- Unit Map
- Progress Build
- Getting Ready to Teach
- Materials and Preparation
- Science Background
- Standards at a Glance

Teacher References

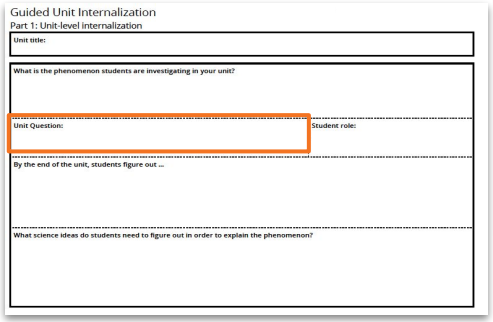
- Lesson Overview Compilation

Printable Resources

- Article Compilation
- Coherence Flowchart
- Copymaster Compilation
- Flextension Compilation
- Investigation Notebook
- NGSS Information for Parents and Guardians
- Print Materials (8.5" x 11")
- Print Materials (11" x 17")

Offline Preparation

What are the Unit and Chapter Questions unit two?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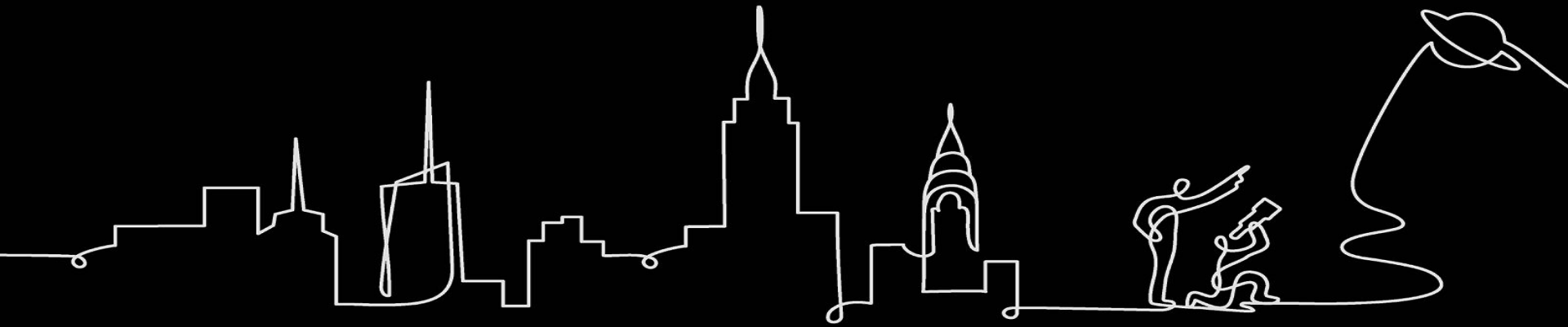
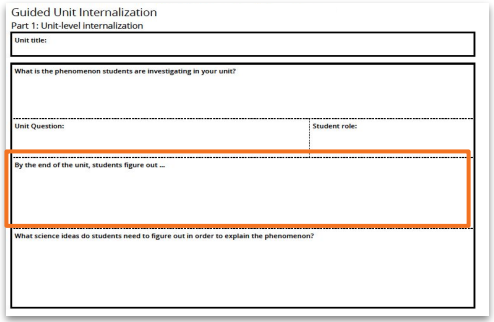
Offline Preparation

Reflect-Type-Chat! Share and Learn

In two sentences or less, what do students figure out by the end of the unit?



By the end of the unit what will the students figure out?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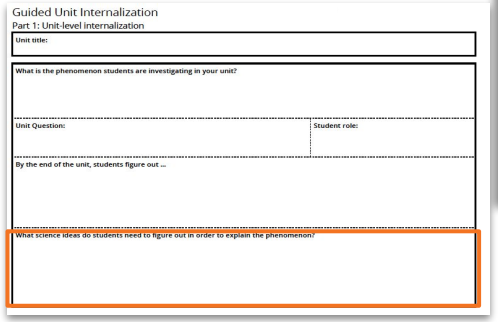
Offline Preparation

What science concepts do students need to figure out in order to build an explanation of the unit phenomena?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Offline Preparation

Guided Unit Internalization

Part 1: Unit-level internalization

Unit title:

What is the phenomenon students are investigating in your unit?

Unit Overview

Unit Question:

Lesson Overview Compilation

Student role:

Unit Overview

By the end of the unit, students figure out ...

Unit Map, See also Progress Build

What science ideas do students need to figure out in order to explain the phenomenon?

Unit Map, Progress Build, Science Background Document

Where to Look!


Science Seminar
Anchor Phenomenon:
During the Carboniferous period, South China was in a different location, which may have affected its air temperature.

Science Seminar: Remote/Hybrid

Considering claims and evidence

Participating in the Science Seminar

Writing an argument

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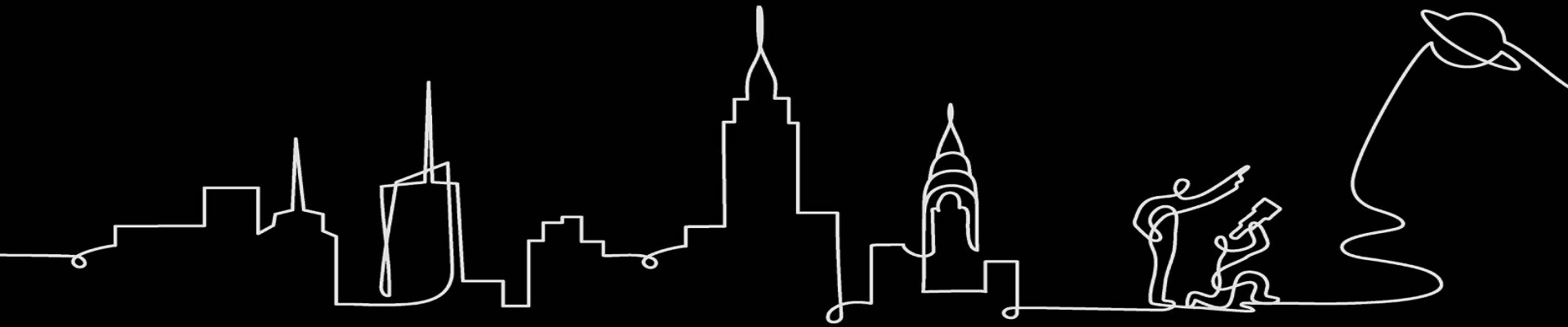
Reflect-Type-Chat! Share and Learn

How can you adapt the science seminar for remote and hybrid instructional models?



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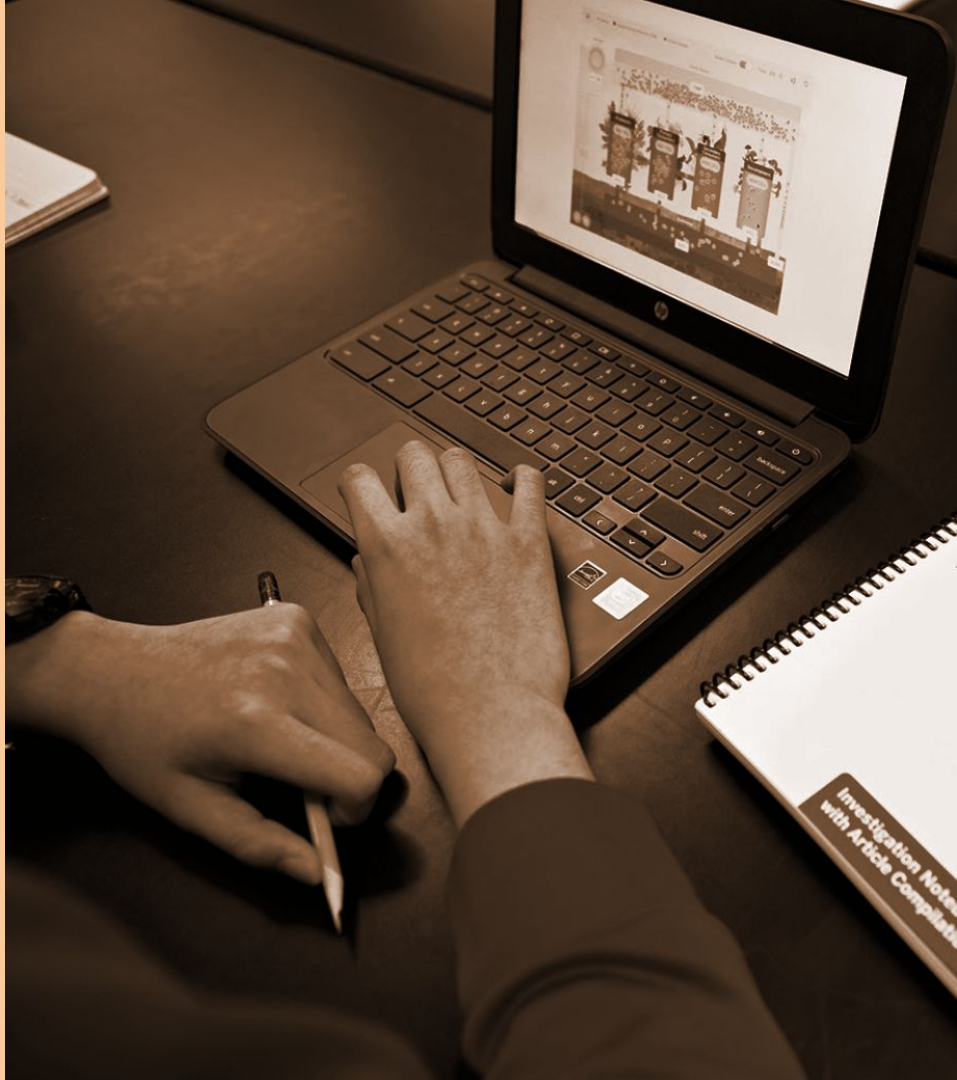
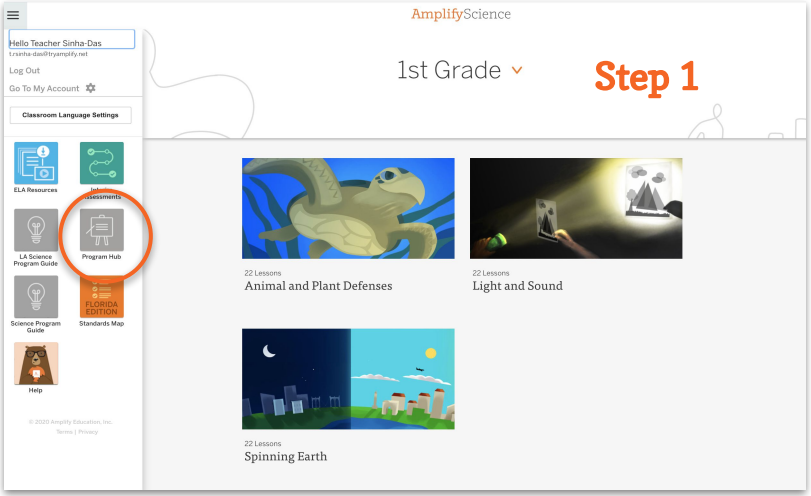


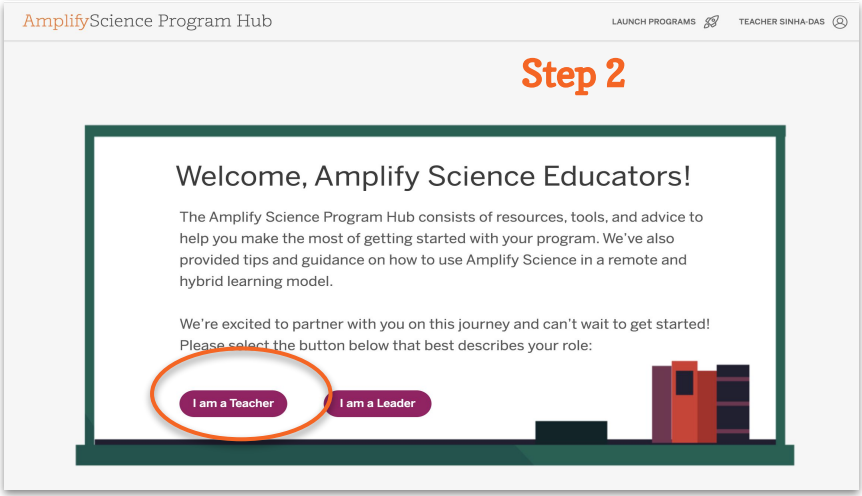
Questions
Reflections
Connections

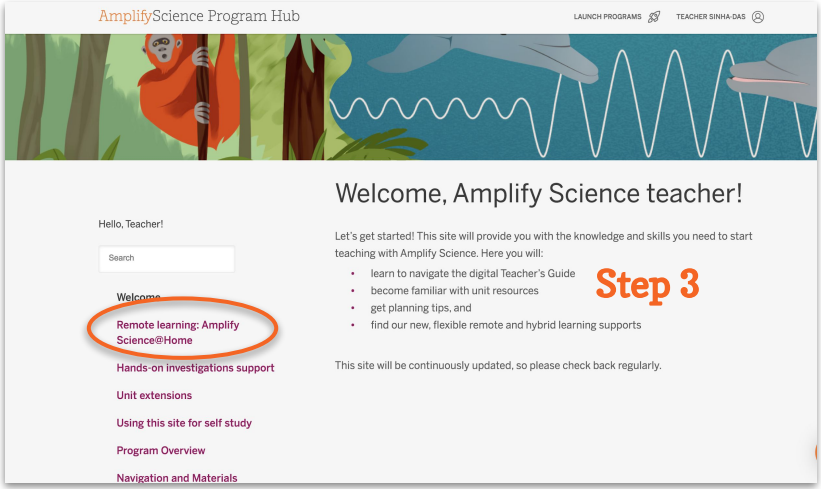
Unit 2 Planning Notes

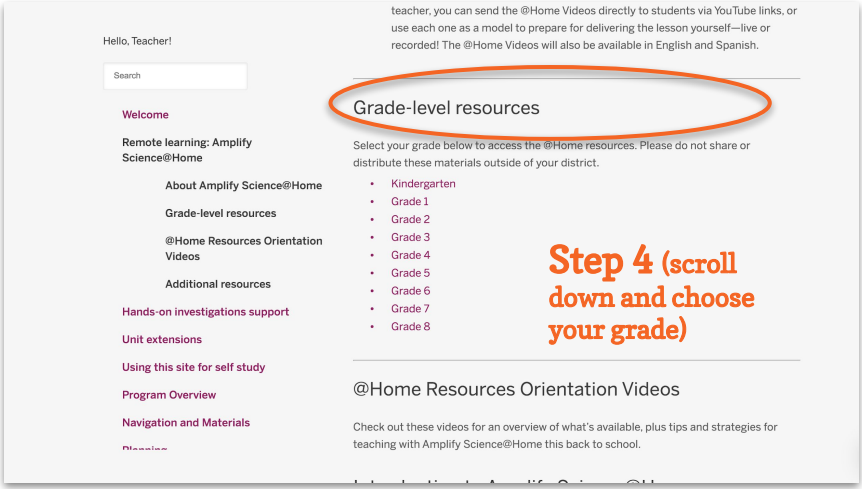
Global Navigation

Program Hub Self Study


AmplifyScience
Hello Teacher Sinha-Das
Log Out
Go To My Account
Classroom Language Settings
ELA Resources
LA Science Program Guide
Program Hub
Science Program Guide
Standards Map
Help
1st Grade
Step 1
22 Lessons
Animal and Plant Defenses
22 Lessons
Light and Sound
22 Lessons
Spinning Earth

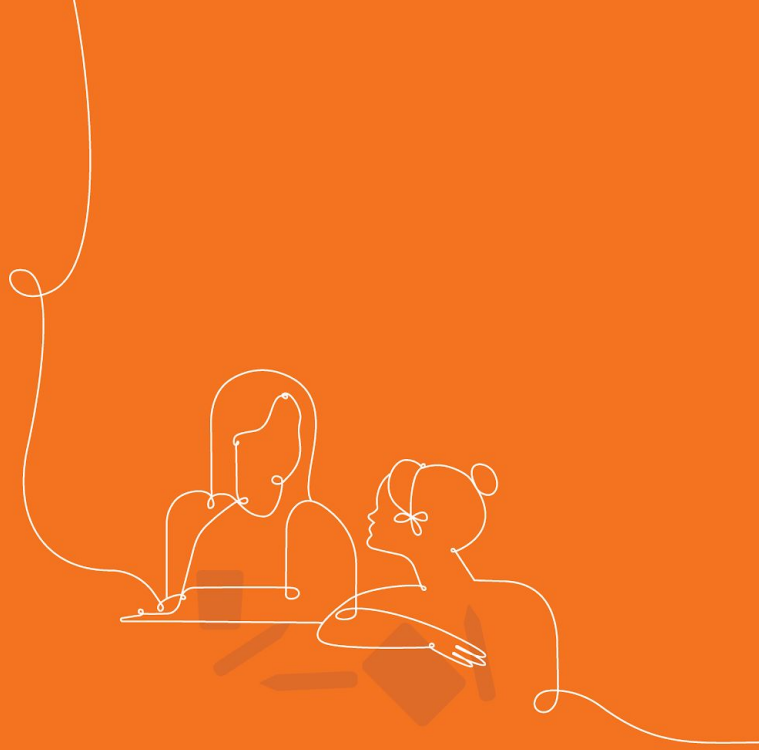

AmplifyScience Program Hub
LAUNCH PROGRAMS
TEACHER SINHA-DAS
Step 2
Welcome, Amplify Science Educators!
The Amplify Science Program Hub consists of resources, tools, and advice to help you make the most of getting started with your program. We've also provided tips and guidance on how to use Amplify Science in a remote and hybrid learning model.
We're excited to partner with you on this journey and can't wait to get started! Please select the button below that best describes your role:
I am a Teacher
I am a Leader


AmplifyScience Program Hub
LAUNCH PROGRAMS
TEACHER SINHA-DAS
Welcome, Amplify Science teacher!
Hello, Teacher!
Search
Welcome
Remote learning: Amplify Science@Home
Hands-on investigations support
Unit extensions
Using this site for self study
Program Overview
Navigation and Materials
Let's get started! This site will provide you with the knowledge and skills you need to start teaching with Amplify Science. Here you will:
learn to navigate the digital Teacher's Guide
become familiar with unit resources
get planning tips, and
find our new, flexible remote and hybrid learning supports
Step 3
This site will be continuously updated, so please check back regularly.


Hello, Teacher!
Search
Welcome
Remote learning: Amplify Science@Home
About Amplify Science@Home
Grade-level resources
@Home Resources Orientation Videos
Additional resources
Hands-on investigations support
Unit extensions
Using this site for self study
Program Overview
Navigation and Materials
teacher, you can send the @Home Videos directly to students via YouTube links, or use each one as a model to prepare for delivering the lesson yourself—live or recorded! The @Home Videos will also be available in English and Spanish.
Grade-level resources
Select your grade below to access the @Home resources. Please do not share or distribute these materials outside of your district.
Kindergarten
Grade 1
Grade 2
Grade 3
Grade 4
Grade 5
Grade 6
Grade 7
Grade 8
Step 4 (scroll down and choose your grade)
@Home Resources Orientation Videos
Check out these videos for an overview of what's available, plus tips and strategies for teaching with Amplify Science@Home this back to school.

Navigate to your unit on the Program Hub locate and record planning notes on:

1. **Self-Study Resources**
2. **@Home Videos for Unit 3**

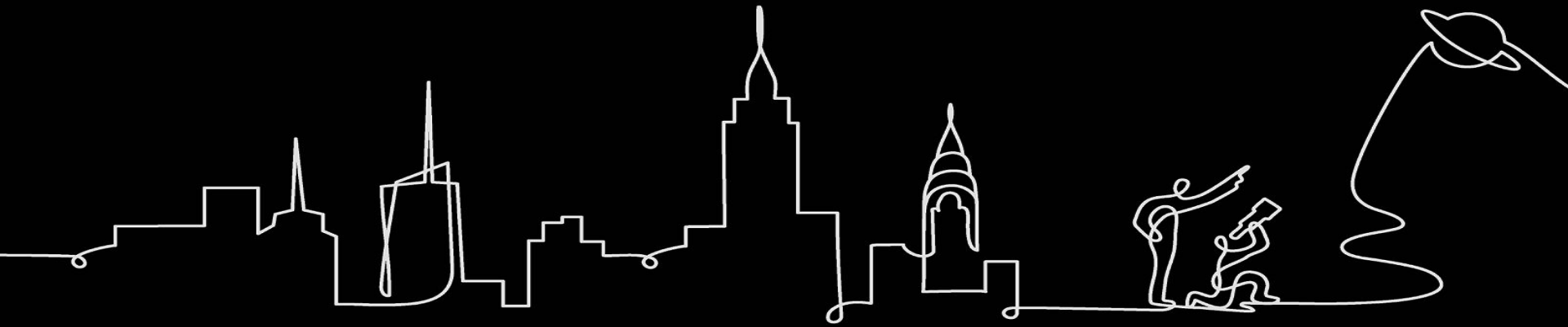


In Chat

What are some possible uses for the @Home Videos

Reflect-Type-Chat! Share and Learn

Which self-study resource on the Program-Hub will you use most often and why?



AmplifyScience@Home

Updated Approach @Home Units

Packet or slide deck versions of Amplify Science units condensed by about 50%

See Updated Approach to Amplify Science @Home Materials!

https://my.amplify.com/help/en/articles/4600152-updated-approach-to-amplify-science-home-unit-student-materials

Suggestions for Online Synchronous Time

Online synchronous time
Online discussions: It's worthwhile to establish norms and routines for online discussions in science to ensure equity of voice, turn-taking, etc.
Digital tool demonstrations: You can share your screen and demonstrate, or invite your students to share their screen and think-aloud as they use a Simulation or other digital tool.
Interactive read-alouds: Screen share a digital book or article, and pause to ask questions and invite discussion as you would in the classroom.
Shared Writing: This is a great opportunity for a collaborative document that all your students can contribute to.
Co-constructed class charts: You can create digital charts, or create physical charts in your home with student input.

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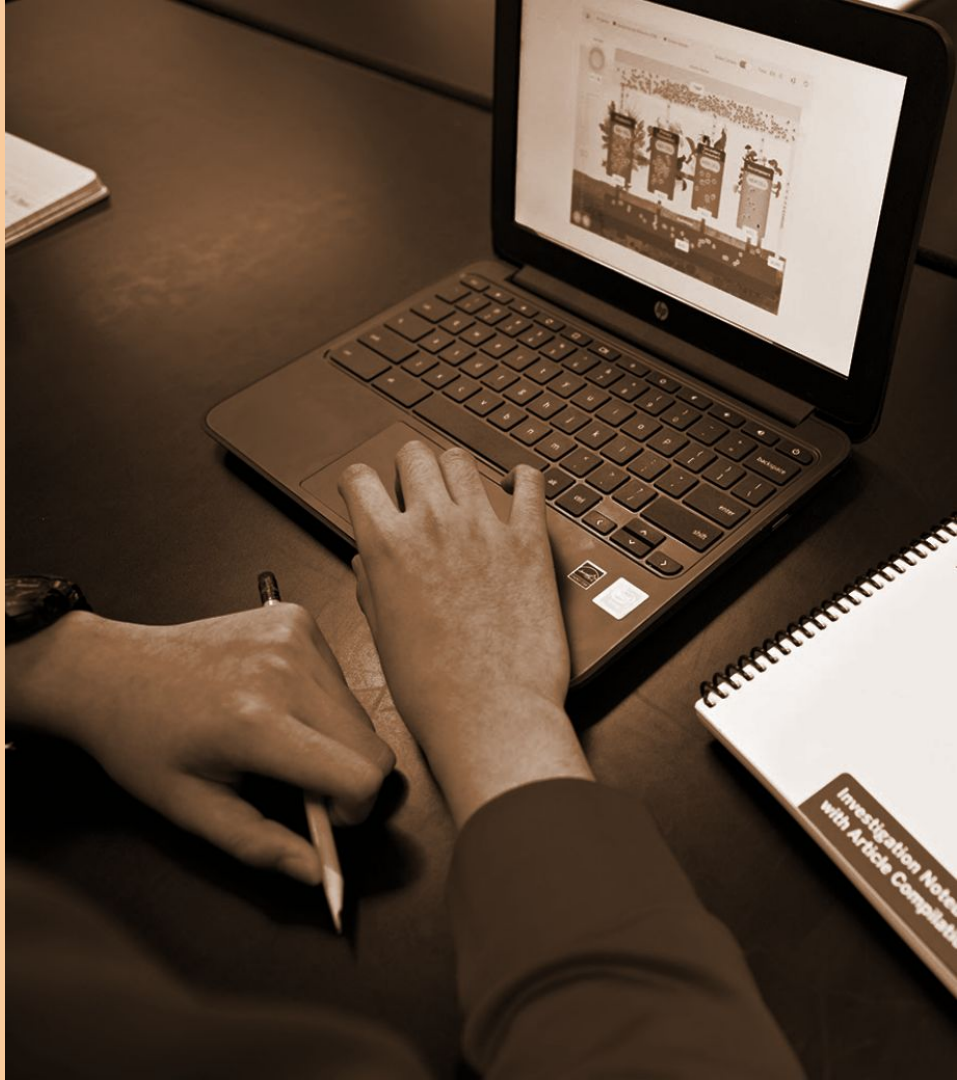
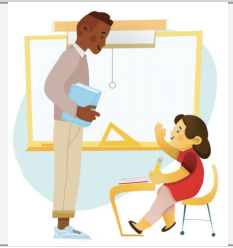
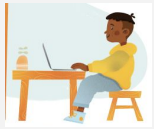
Plan for the day

- **Framing the day**
- Unit Internalization
- Amplify Science @Home
- **Planning**
- Reflection and closing



Sample instructional scenario

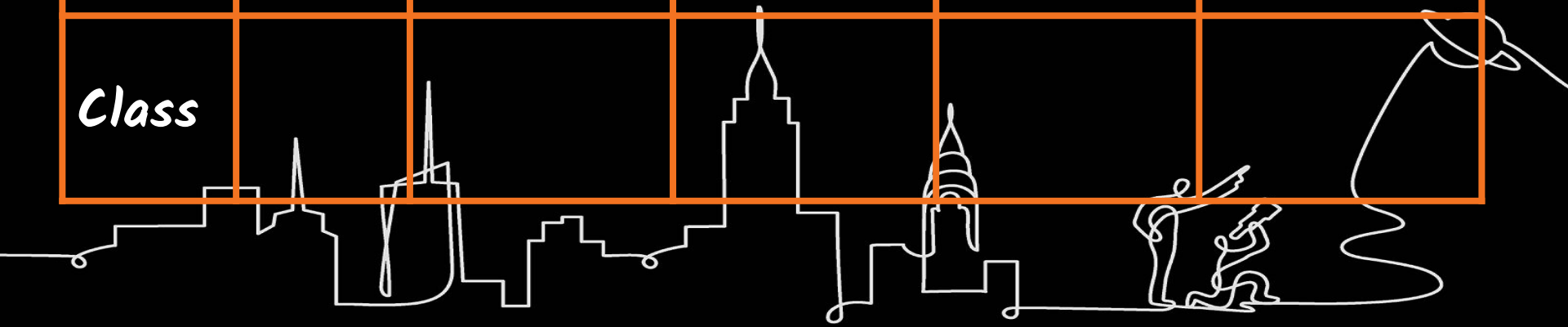
Hybrid pod model

Select 1-2 lessons for the week and decide the best instructional format for the different parts of the lesson		
In class 	**Remote online class**   	**Remote** 
• Hands-on investigations (option for teacher demo) • Discourse routines • Class discussions • Physical modeling activities	• Sim demonstrations • Read-alouds • Shared Writing • Co-constructed class charts	• @Home video lessons • @Home Unit activities • Reflective writing • Independently review

Think-Type-Chat
Share and Learn

Take a moment to think about your current instructional model. Please share in chat!

	M	T	W	Th	F
Class					
Class					



@Home Resources example use case

Hybrid Model: Teach live during in-person/synchronous time

Day 1

Remote

Assign: Lesson 1.1 @Home Video

Day 2

In-person

Teach: Lesson 1.2 live

Day 3

Synchronous

Teach: Lesson 1.3 using clips from @Home Video

Day 4

Remote

Assign: Lesson 1.4 @Home Packet/Slides

Day 5

In-person

Revisit: hands-on or discourse-based activities the week's lessons

@Home Resources example use case

Remote Model: with synchronous & asynchronous learning

Days 1 & 2

Asynchronous

Assign: Lesson 1.1 @Home Video and sheets for students to work through on their own

Day 3

Synchronous

Teach: Lesson 1.2 using clips from the @Home Video

Day 4

Asynchronous

Assign: Lesson 1.3 @Home Packet or @Home Slides for students to work through on their own

Day 5

Synchronous

Revisit: hands-on or discourse-based activities from the week's lessons

Guided Planning

Objectives

- Use the resources we have explored to compare@Home lessons w/ in-class lessons.
- Use the lesson adaptation tool to adjust an in-class lesson for remote and hybrid learning.

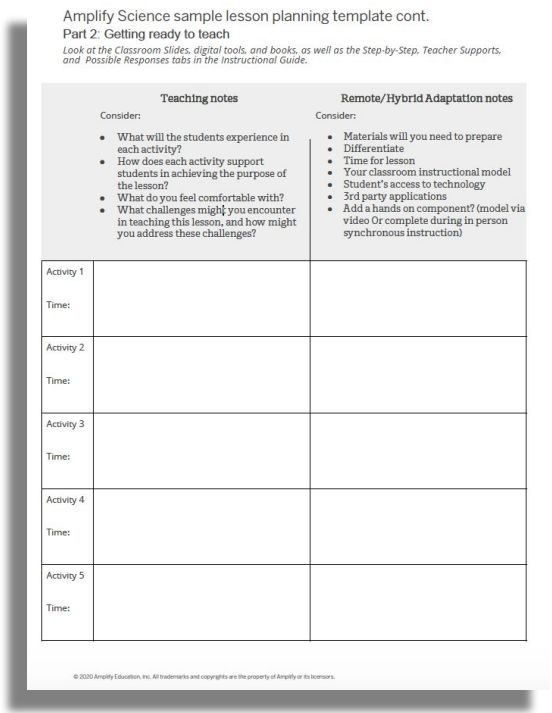
Lesson Adaptation Considerations

While planning consider the information below to select the appropriate resources:

- Do you have more, less, or the same time as last year for Science?
- Your classroom instructional model (Hybrid or Remote)
- Student's access to technology (packet or slides/sheets)
- The 3rd party applications will you pair with Amplify resources (if any)?
- Do I want to add a hands on component? (model via video? Or complete during in person synchronous instruction)

AmplifyScience@Lesson Adaptation Tool (Remote/Hybrid)

Lesson:	Date:
Lesson purpose: [Lesson Brief: Overview]	3-D connections and formative assessment opportunities:
What the students will learn in this lesson and potential challenges.	How will the students be practicing the multiple modalities during this lesson?



Amplify Science sample lesson planning template cont.

Part 2: Getting ready to teach

Look at the Classroom Slides, digital tools, and books, as well as the Step-by-Step, Teacher Supports, and Possible Responses tabs in the Instructional Guide.

	Teaching notes Consider: • What will the students experience in each activity? • How does each activity support students in achieving the purpose of the lesson? • What do you feel comfortable with? • What challenges might you encounter in teaching this lesson, and how might you address these challenges?	Remote/Hybrid Adaptation notes Consider: • Materials will you need to prepare • Differentiate • Time for lesson • Your classroom instructional model • Student's access to technology • 3rd party applications • Add a hands on component? (model via video Or complete during in person synchronous instruction)
Activity 1 Time:		
Activity 2 Time:		
Activity 3 Time:		
Activity 4 Time:		
Activity 5 Time:		

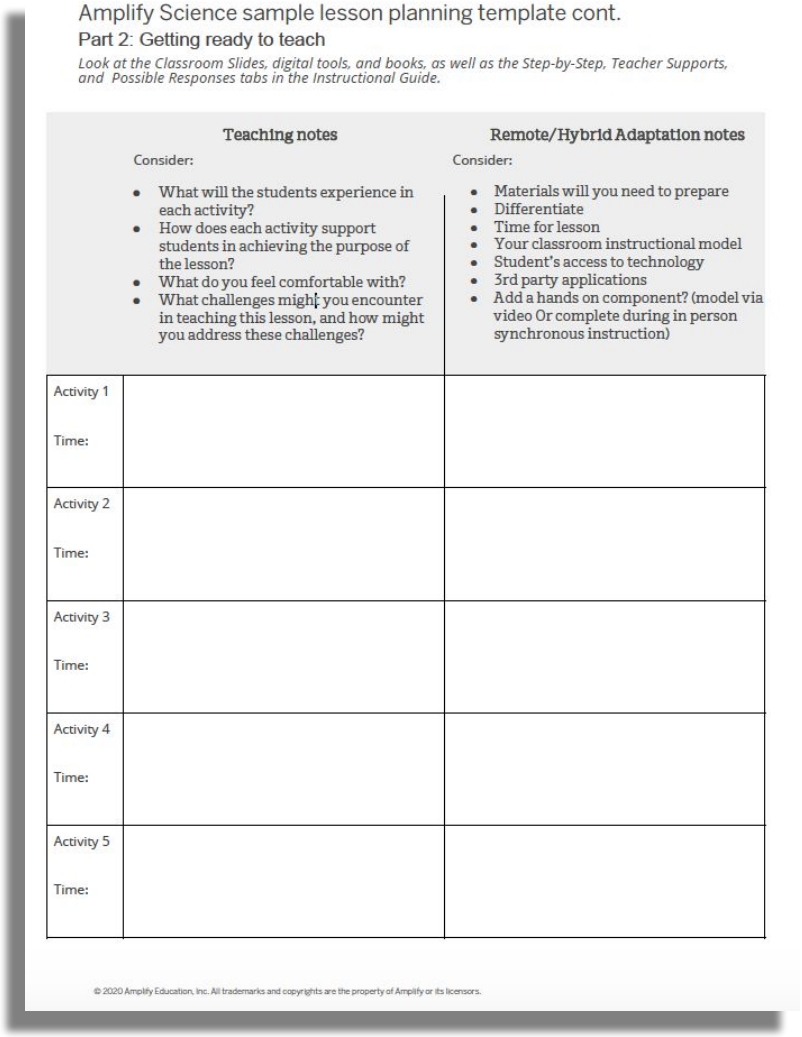
Lesson Adaptation Tool for Remote and Hybrid Learning

AmplifyScience@Lesson Adaptation Tool (Remote/Hybrid)

Lesson:	Date:
Lesson purpose: [Lesson Brief: Overview]	3-D connections and formative assessment opportunities:
What the students will learn in this lesson and potential challenges.	How will the students be practicing the multiple modalities during this lesson?

Lesson Adaptation!

Choose a lesson and use the Lesson Adaptation Tool to begin recording planning information about the lesson.



Amplify Science sample lesson planning template cont.

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Activity 1 Time:		
Activity 2 Time:		
Activity 3 Time:		
Activity 4 Time:		
Activity 5 Time:		

Lesson Adaptation!

With the Lesson Adaptation Tool begin adjusting the lesson for remote and hybrid learning.

Note begin with in-class slides

Lesson Adaptation Considerations

While planning consider the information below to select the appropriate resources:

- Do you have more, less, or the same time as last year for Science?
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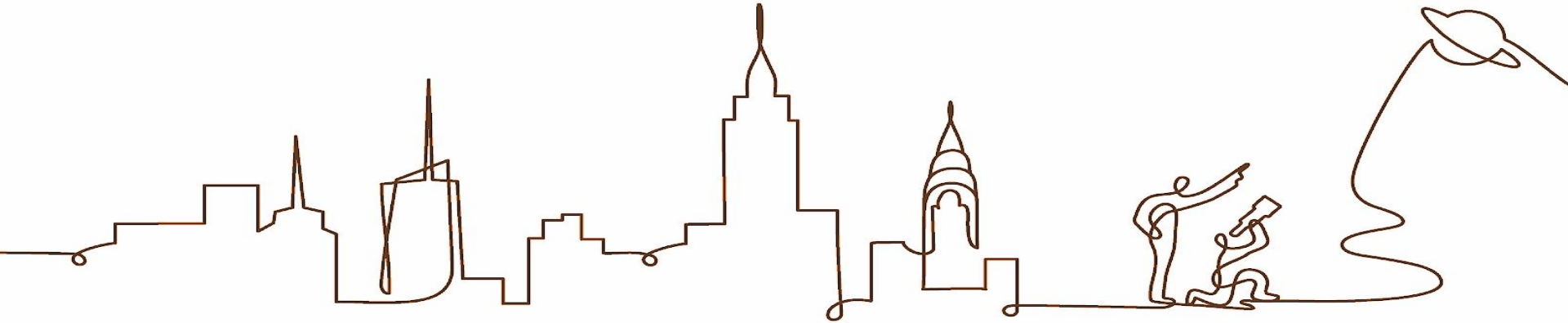
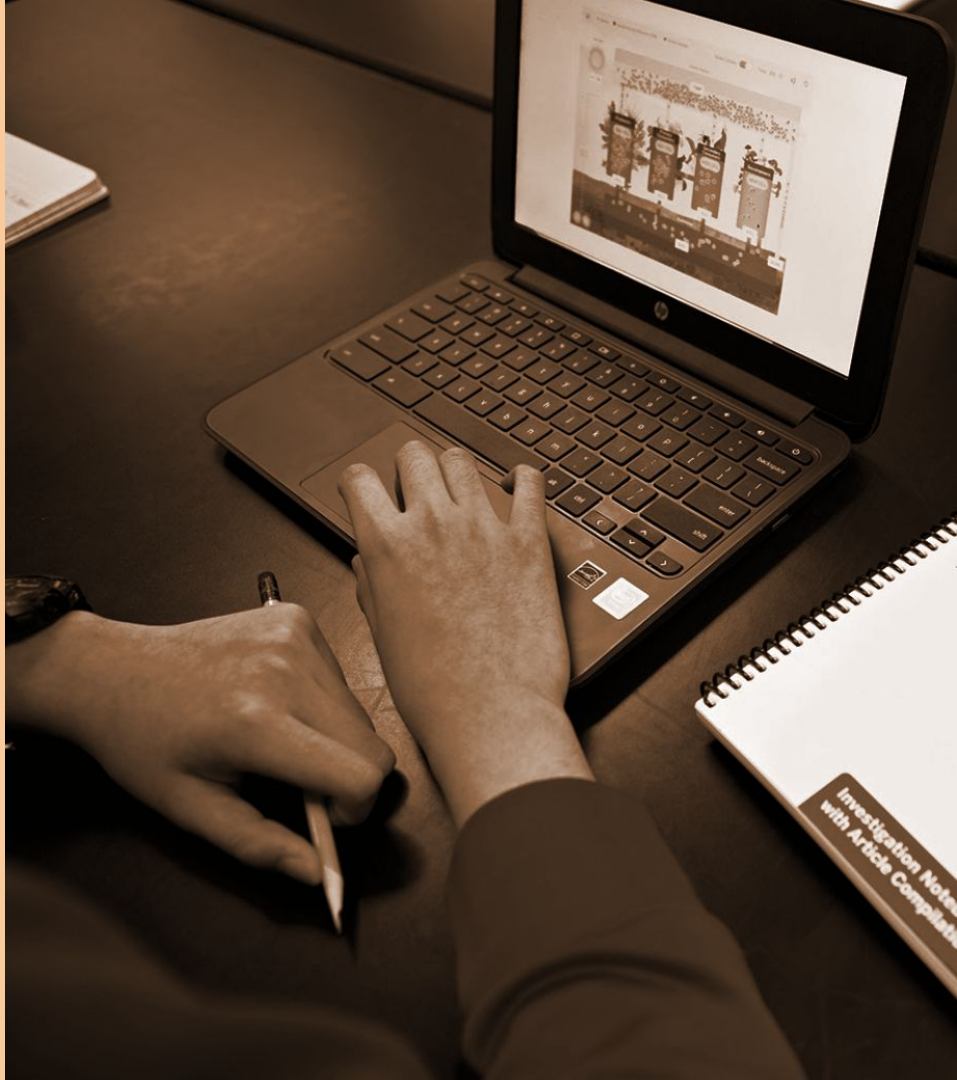
Differentiation

Quick Review of Lesson Level Brief



Plan for the day

- Framing the day
- Unit Internalization
- Amplify Science @Home
- Planning
- **Reflection and closing**



Questions?

NYC Program Guide

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

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

Amplify Help

Find lots of advice and answers from the Amplify team.

my.amplify.com/help

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