Part of the Day	Timing (min)	*PLS use only* Plan for the day
Framing the Day **(Slides 1-31)**	25 min (9:00-9:25)	• Welcome and Introductions (5) • Reflection and Vision setting (10) • Revisiting the Amplify Approach (10)
Unit Internalization **(Slides 32-52)**	25 min (9:25-9:50)	• Resource review (10) • Traditional Amplify Science lesson walk through (15) • Live Navigation (if needed) **Change bullet traditional walk through to 10 min and allocate 10 for navigation if needed**
Break **(Slide 53)**	5 min (9:50-9:55)	
@Home Resources Internalization **(Slides 54-133)**	60 min (9:55-10:55)	• @Home Units (15 min) • @Home Videos (15 min) • Lesson Internalization (20min) • Resource Selection/Guidance (10 min)
Break **(Slide 134)**	5 min (10:55-11:00)	
Guided Planning **(Slides 135-145)**	55 min (11:00-11:55)	• Planning document walk through (10 min) • Lesson planning work time (45 min)
Closing **(Slides 146-153)**	5 min (11:55-12:00)	• Reflection/additional resources (3) • Survey (2)

Amplify Science

Grade 6: Thermal Energy

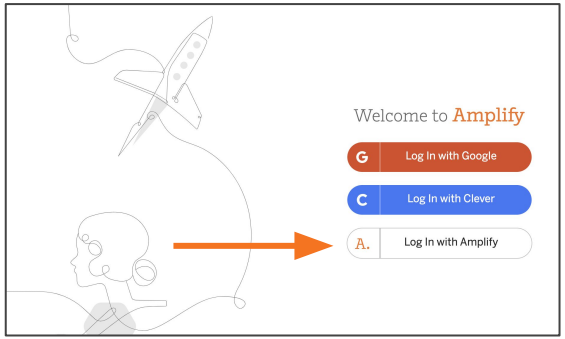
Guided Unit Internalization with @Home Resources

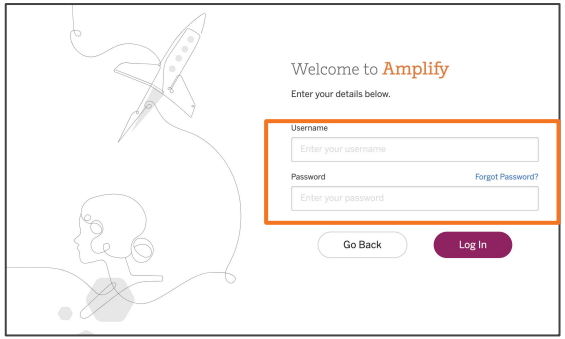
Deep-dive and strengthening workshop

School/District Name
Date
Presented by Your Name

Welcome to Amplify Science!

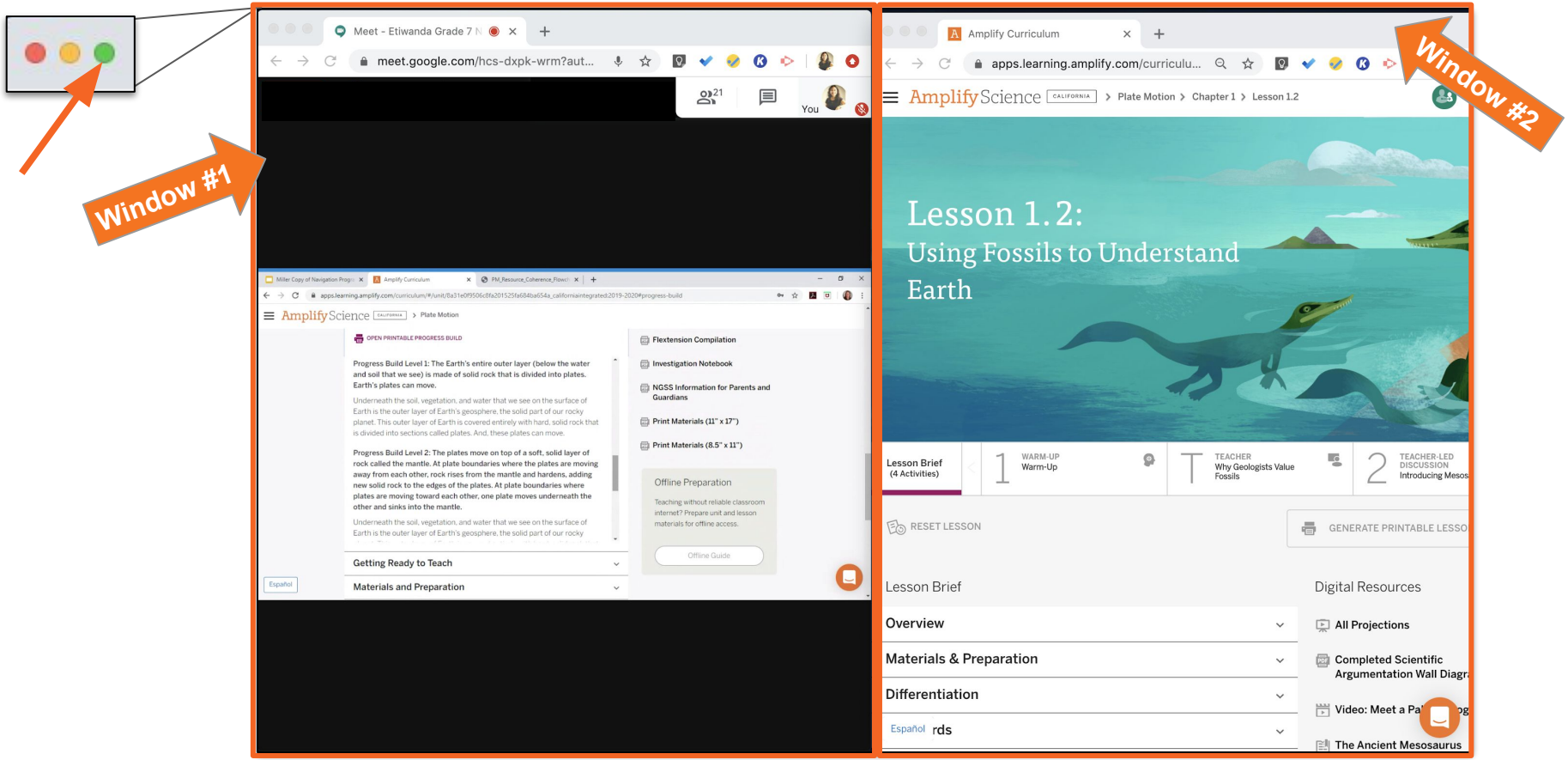
Do Now: Login





1. Go to **learning.amplify.com**
2. Select **Log in with Amplify**
3. Enter your credentials
4. Explore the curriculum

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

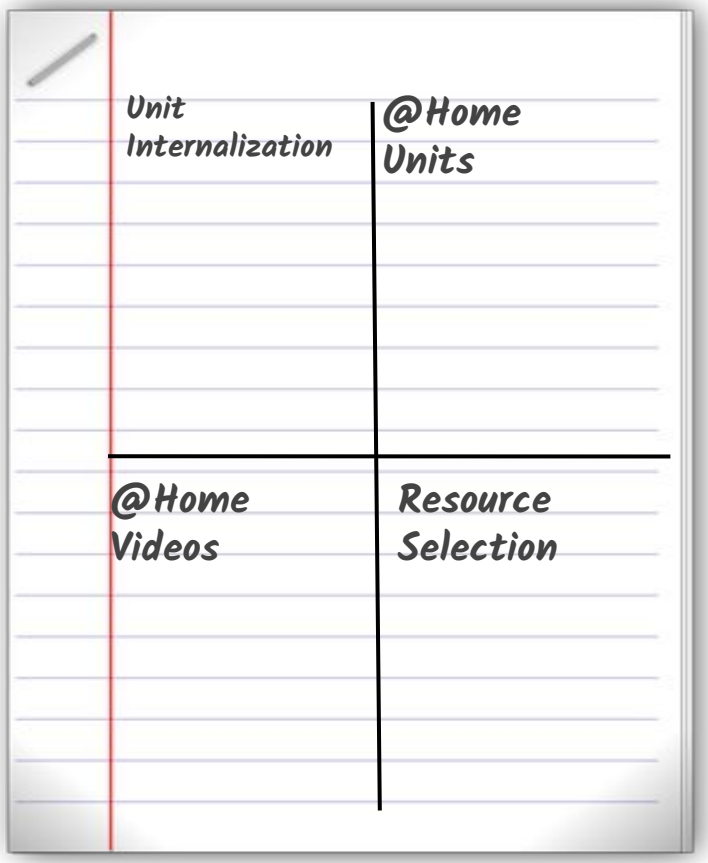
Engage at your comfort level - chat, ask questions, discuss, share!

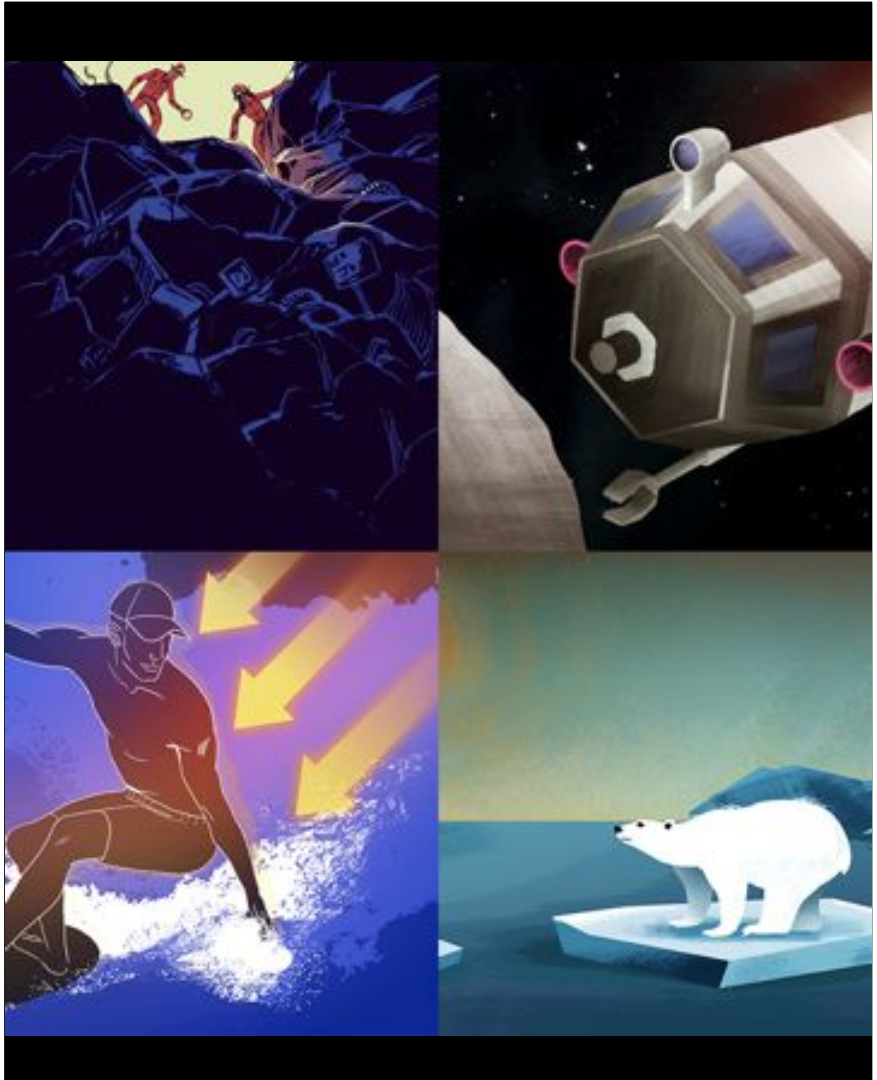
Objectives:

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

- Leverage your understanding of your upcoming unit to make instructional decisions about remote or hybrid learning using the Unit Guide and Amplify Science@Home resources.
- Apply new understanding of the unit to determine which @Home resources best meet the needs of students and give them the most robust experience in figuring out the phenomenon of the unit.
- Plan for the next week of instruction using the @Home resources, your class schedule, instructional format, and internalize the planning protocol to use for future planning.

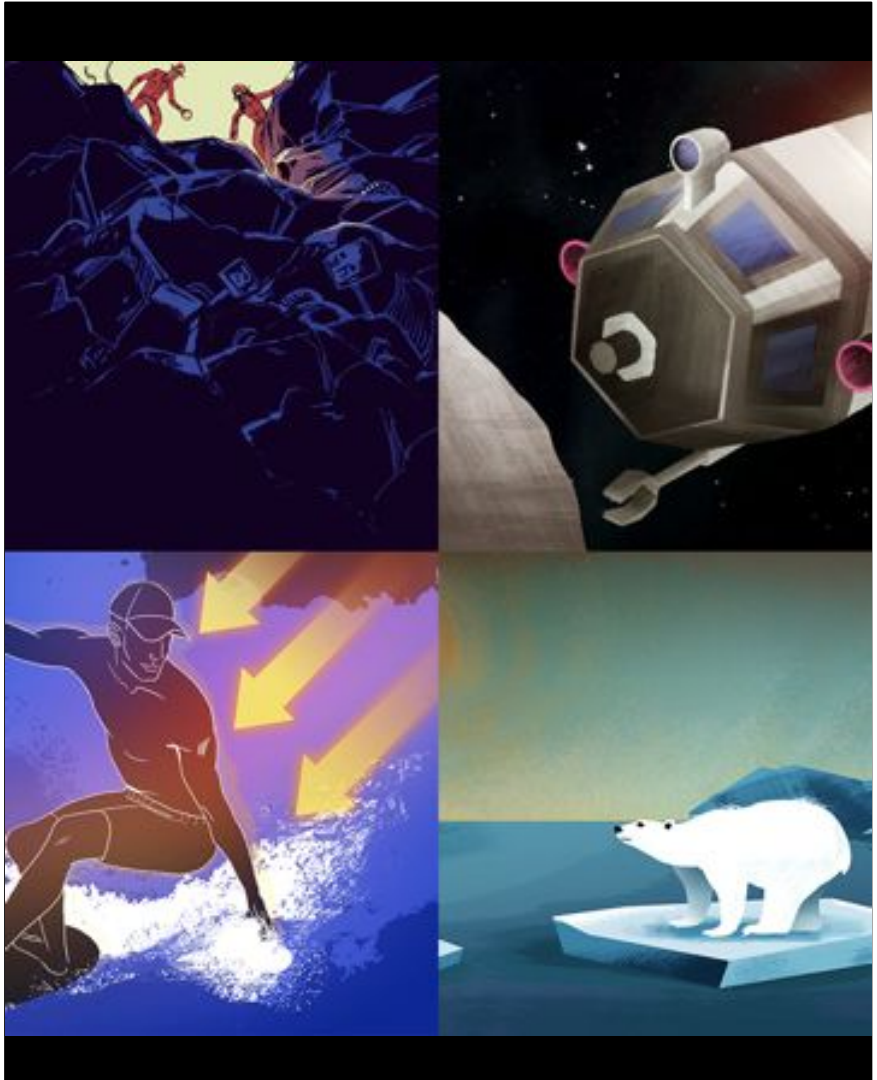
Capturing key takeaways!





Plan for the day

- Framing the day
  - Welcome and introductions
  - Reflection and vision setting
  - Revisiting the Amplify Approach
- Unit Internalization
- @Home Resources Internalization
  - @Home Units
  - @Home Videos
  - Lesson Level Internalization
  - Resource selection/Guidance
- Guided Planning
  - Planning to Teach using @Home
- Reflection and closing



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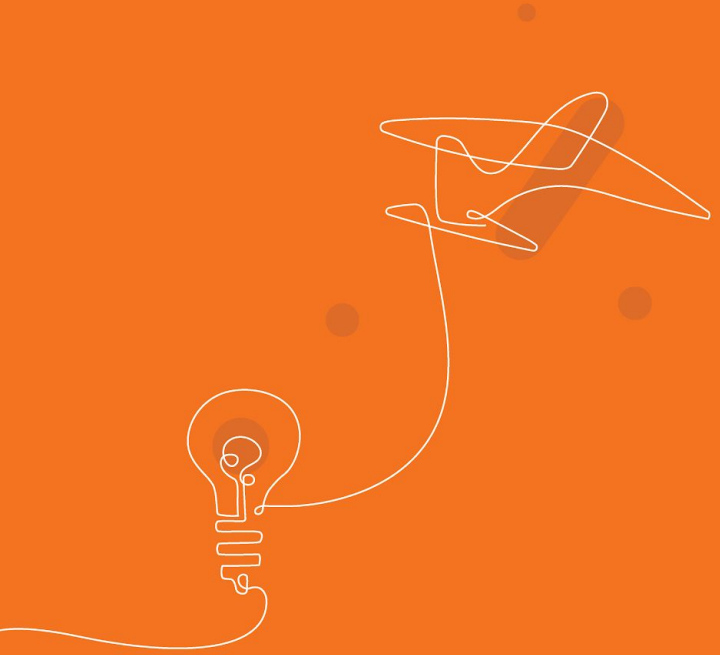


Welcome and Introductions

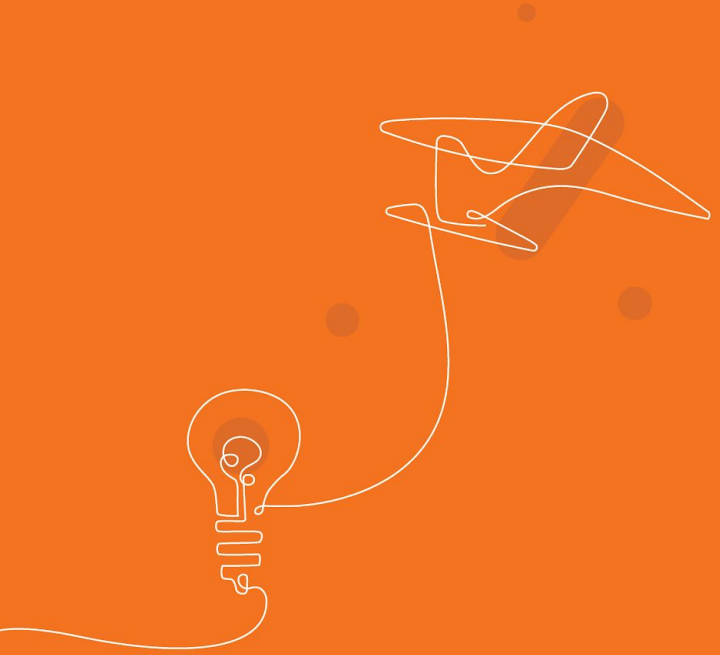
Who's in the Room?

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



Reflection and goal-setting

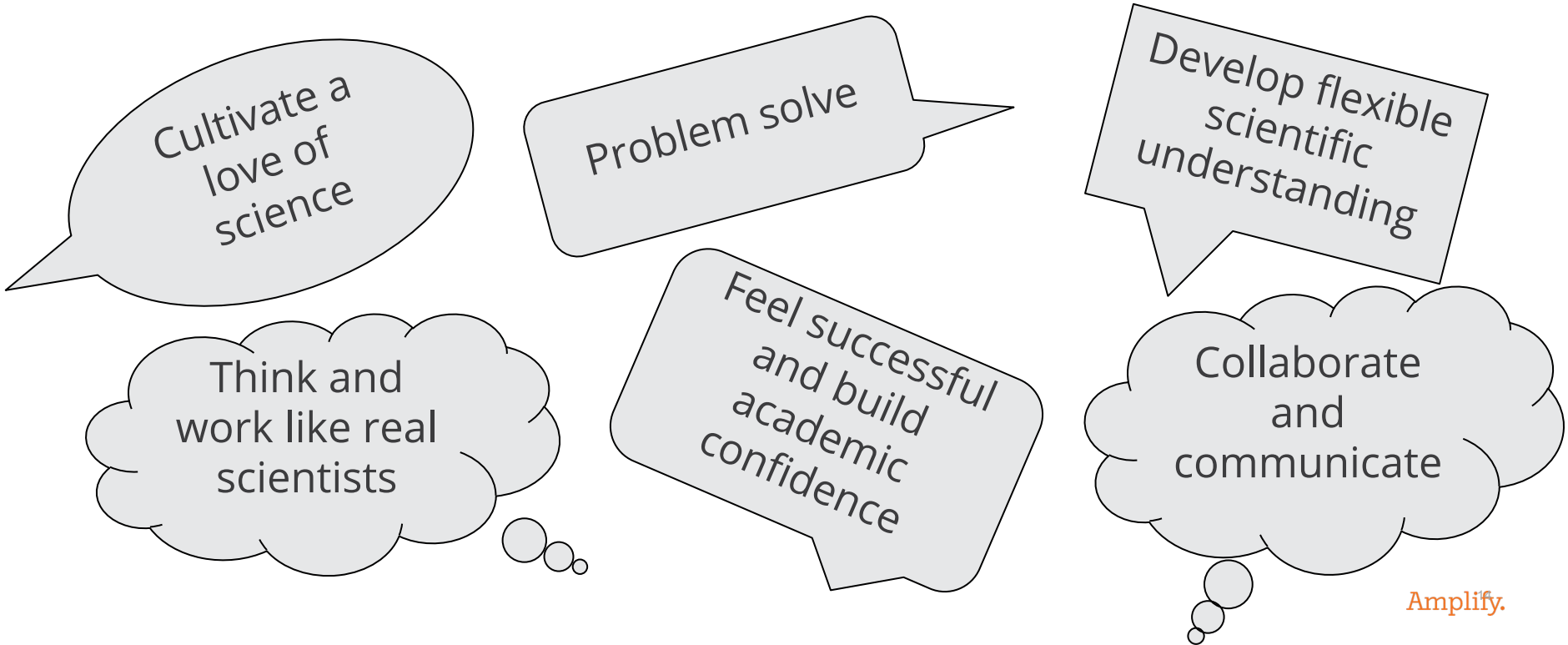
Reflection: what was last year like?

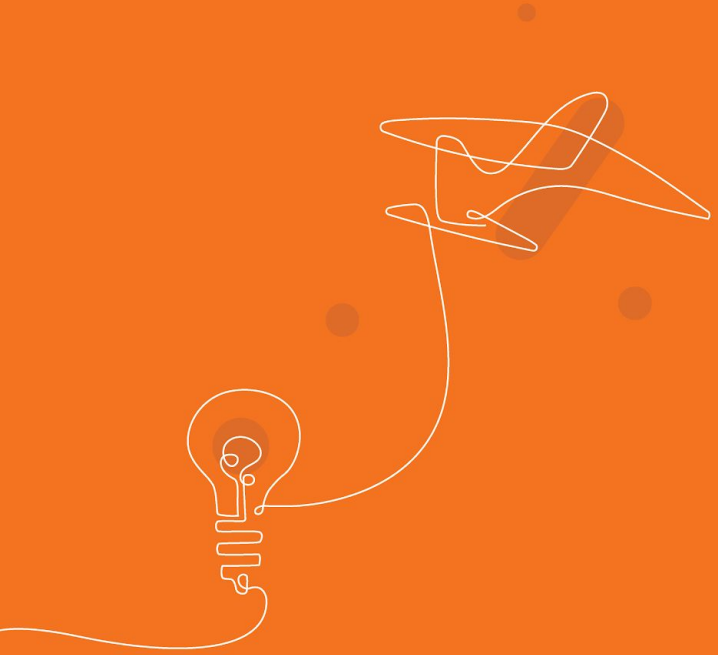
Stop and jot: **Choose One**: Last year, while teaching remotely...

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

Setting a vision

What are you hoping students at your school get out of science this year?





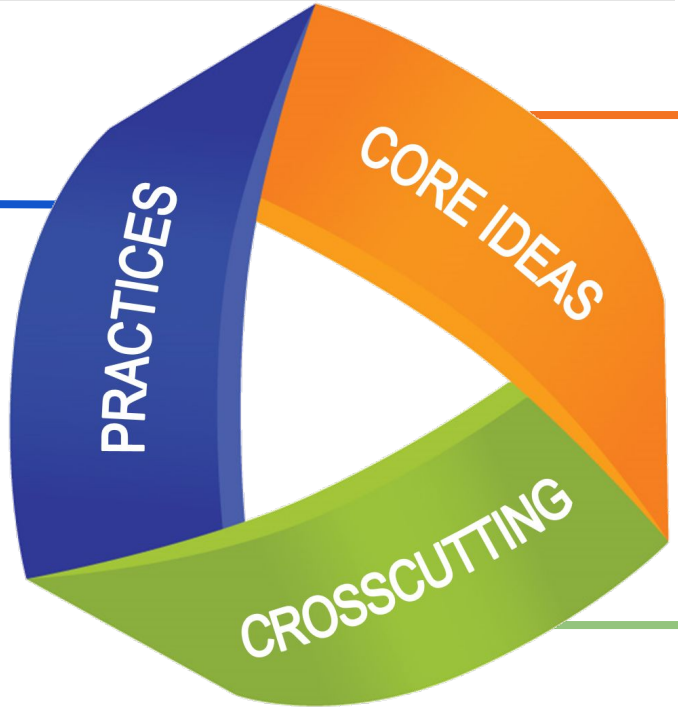
Revisiting the Amplify Science approach

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

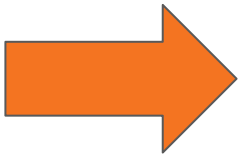
Crosscutting Concepts

Comparing topics and phenomena

A shift in science instruction

from learning about

(like a student)

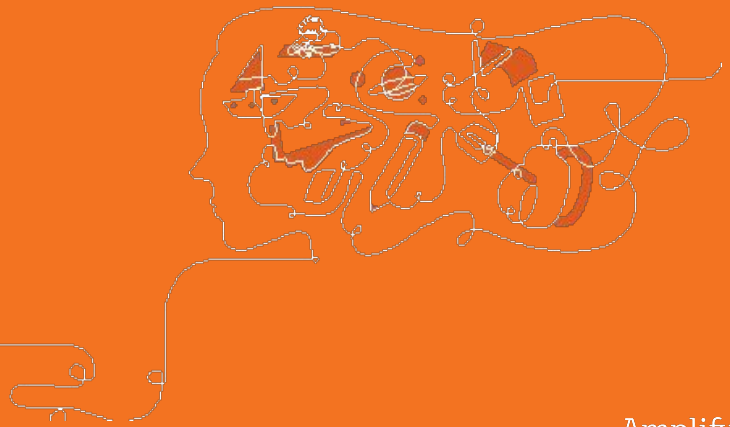


to figuring out

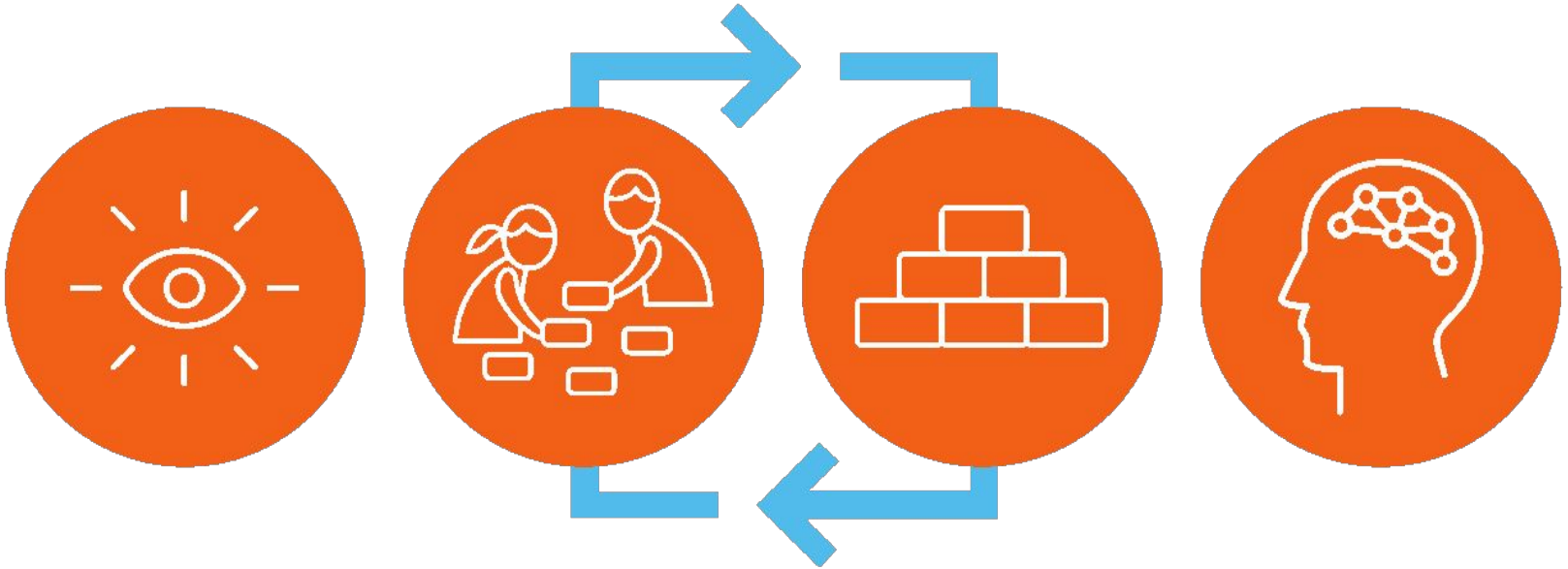
(like a scientist)

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

What is the first step to the Amplify Science Approach?

A Collect evidence from multiple sources

B Introduce a Phenomenon and/or real world problem

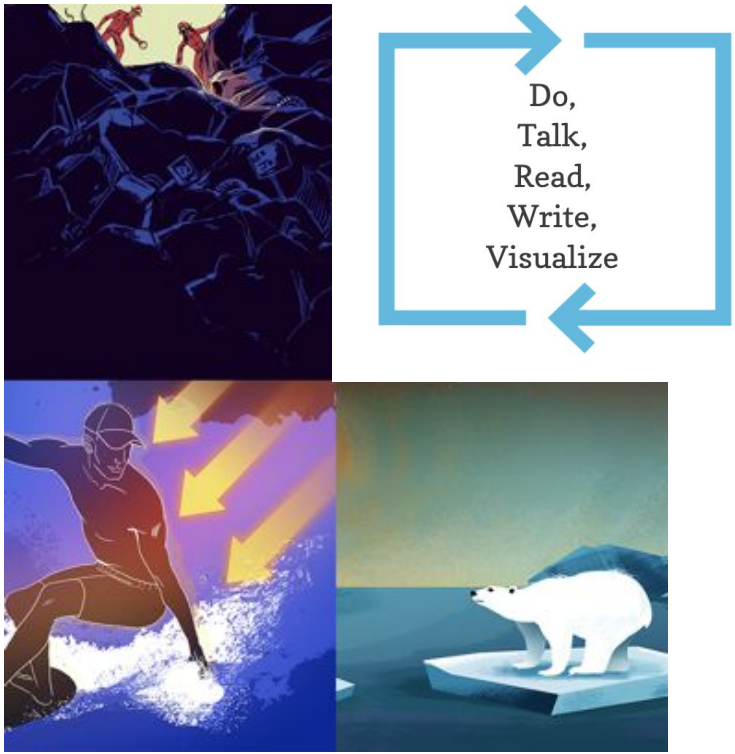
C Apply knowledge to solve different problem

D Build an increasingly complex explanation

Multimodal, phenomenon-based learning

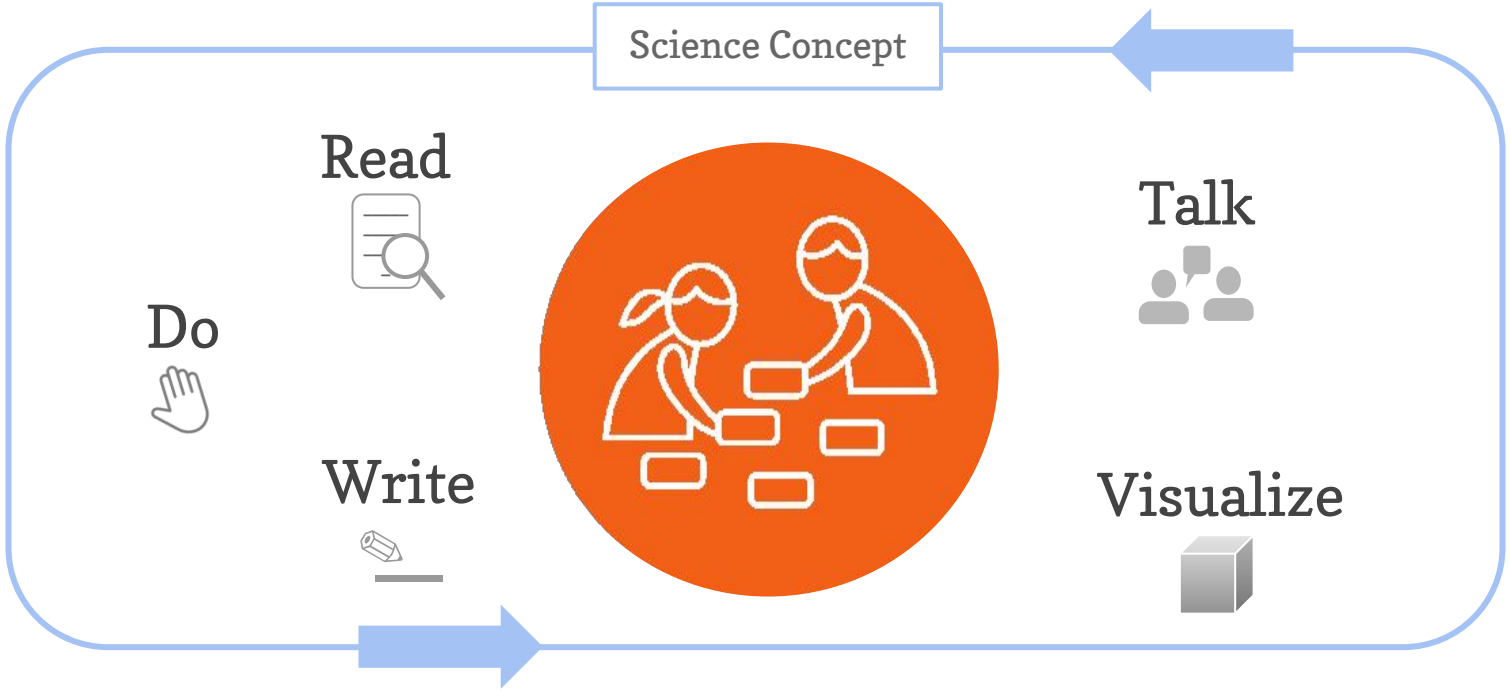
In each Amplify Science unit, students embody the role of a scientist or engineer to figure out phenomena.

They gather evidence from multiple sources, using multiple modalities.



Multimodal learning

Gathering evidence from different sources



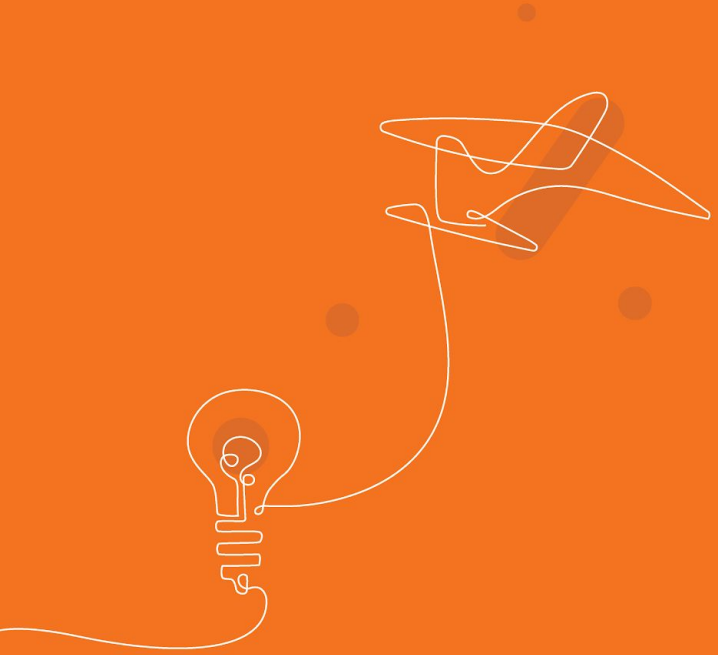
What are the multiple modalities?

A Do, talk, read, write, visualize

C Do, visualize, hands-on projects

B Read, write, google search

D Reading, writing, math



Revisiting Resources

Middle School Curriculum New York City Edition

* Companion Lessons must be completed*

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

Harnessing Human Energy

Core Units

19 Lessons

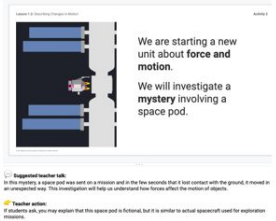
Thermal Energy

Middle school unit resources

Investigation Notebooks or digital student experience

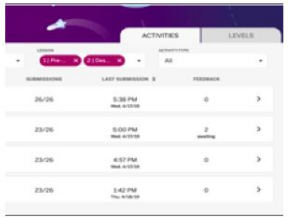
Articles (digital or print)

Simulations and other digital tools



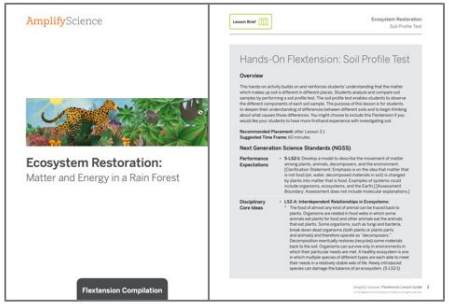
Classroom Slides

Teacher's Guide (digital or print)



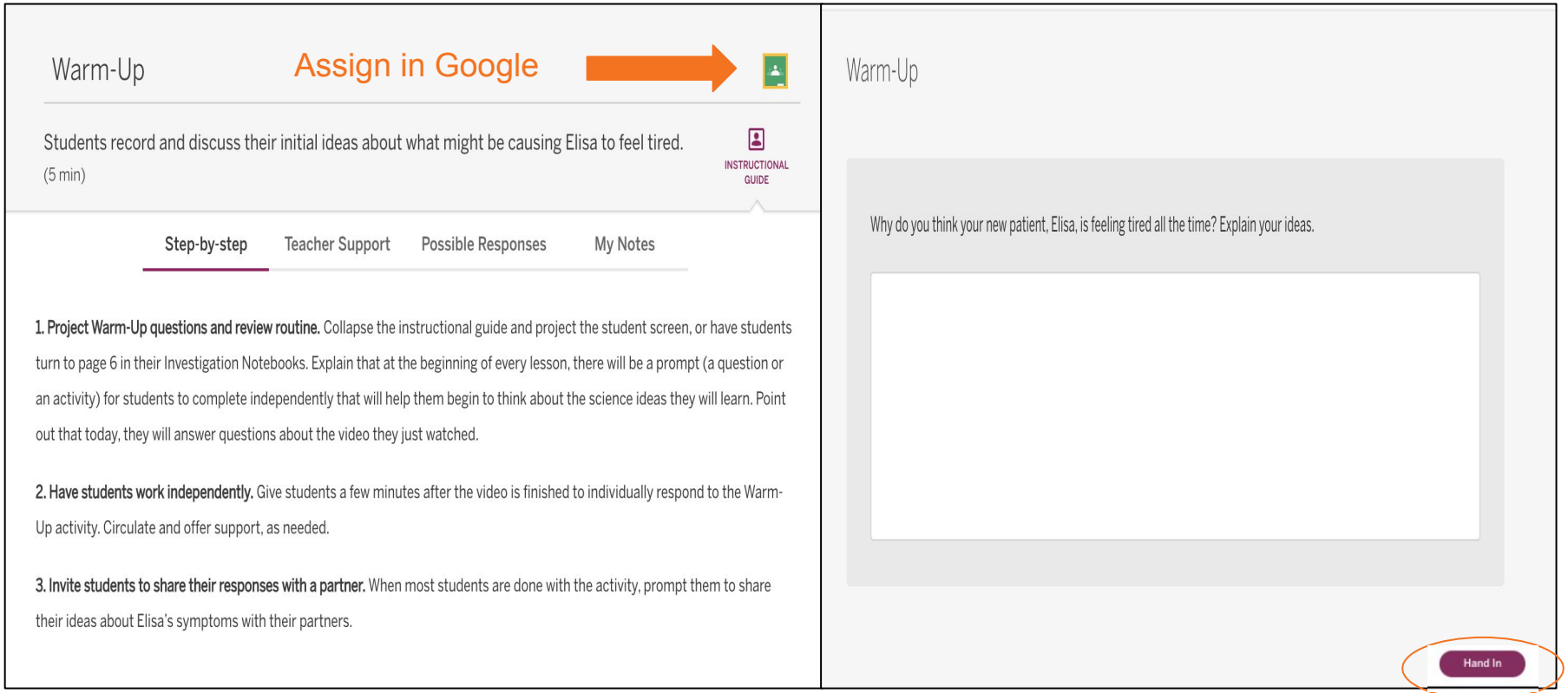
Assessments and Reporting

Hands-on and print materials

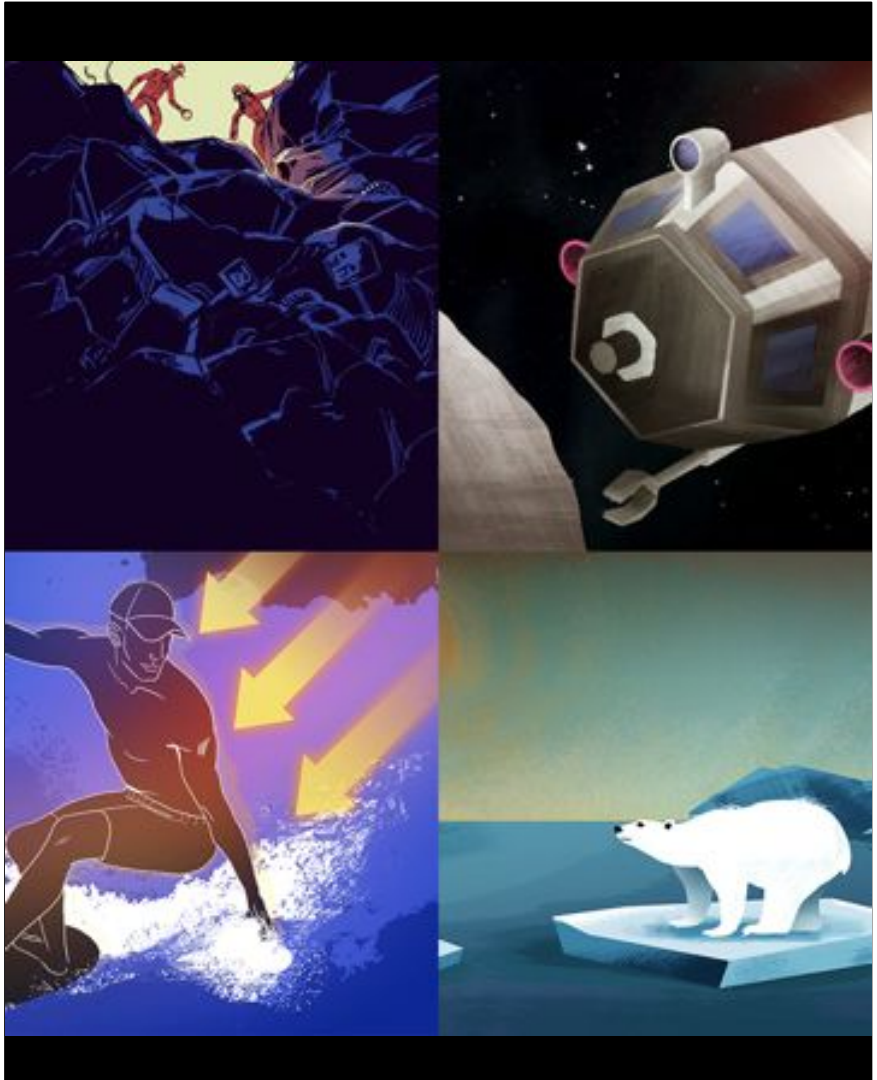


Hands-on Flextensions

Middle School Online Component



Amplify.



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  - Planning to Teach using @Home
- Reflection and closing

Navigation Temperature Check

Rate yourself on your comfort level accessing the traditional Amplify Science site (learning.amplify.com)

1 = Extremely Uncomfortable

2 = Uncomfortable

3 = Mild

4 = Comfortable

5 = Extremely Comfortable

19 Lessons

Thermal Energy

JUMP DOWN TO UNIT GUIDE

GENERATE PRINTABLE TEACHER'S GUIDE

Chapter 1: Understanding Temperature

4 Lessons

Chapter 2: Temperature and Energy

7 Lessons

Chapter 3: Changes in Temperature

4 Lessons

Chapter 4: Water Pasteurization

4 Lessons

Planning for the Unit

- Unit Overview
- Unit Map
- Progress Build
- Getting Ready to Teach
- Materials and Preparation
- Science Background

Printable Resources

- Article Compilation
- Coherence Flowchart
- Copymaster Compilation
- Flextension Compilation
- Investigation Notebook
- NGSS Information for Parents and Guardians

Español

19 Lessons

Thermal Energy

JUMP DOWN TO UNIT GUIDE

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Chapter 1: Understanding Temperature

4 Lessons

Chapter 2: Temperature and Energy

7 Lessons

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- Coherence Flowchart
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- Flextension Compilation
- Investigation Notebook
- NGSS Information for Parents and Guardians

Español

Thermal Energy: Using Water to Heat a School

Problem students work to solve

Which heating system will best heat Riverdale School?

Chapter 1 Question

What is happening when the air in the school gets warmer?

Investigation Question

How is something different when it is warmer or cooler? (1.2-1.4)

Evidence sources and reflection opportunities

- Observe how food coloring spreads in hot and cold water (1.2)
- Discuss how something is different when it is hot and when it is cold (1.2)
- Use the Sim to compare hot and cold water at the molecular scale (1.3)
- Identify a molecular model that shows the difference between hot and cold water (1.3)

Key concepts

- Things are made of molecules (or other types of atom groups). (1.3)
- When a thing gets hotter, its molecules are moving faster. (1.3)
- When a thing gets colder, its molecules are moving slower. (1.3)
- Temperature is a measure of the average speed of the molecules of a thing. (1.4)

Application of key concepts to problem

- Use the paper Modeling Tool to show the difference between warmer and cooler air inside Riverdale School (1.4)

Explanation that students can make to answer the Chapter 1 Question

If the heating systems make the school's air warmer, it is because they increase the average speed of the molecules of the school's air. Things are made of molecules (or other types of atom groups). When a thing gets hotter, its molecules are moving faster. When a thing gets colder, its molecules are moving slower. Temperature is a measure of the average speed of the molecules of a thing.

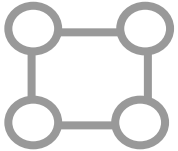
Chapter 1: What is happening when the air in the school gets warmer?

Investigation Question:
How is something different when it is warmer or cooler?

Multiple sources of evidence

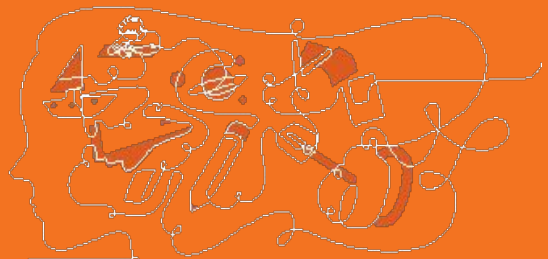
Visualize

Discussion



Modeling tool

Live Navigation



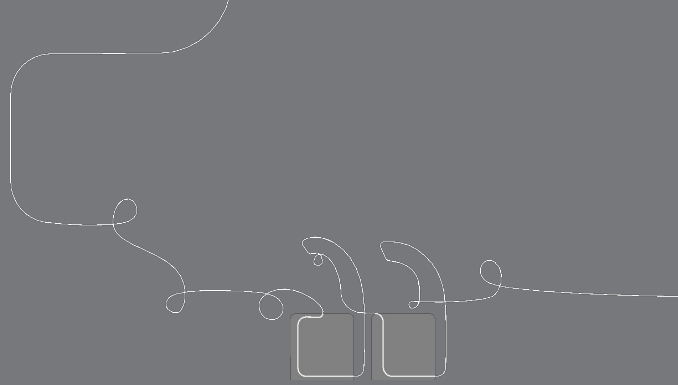
What are the two unit level resources you to find connections between the unit and chapters while lesson planning?

A Lesson overview

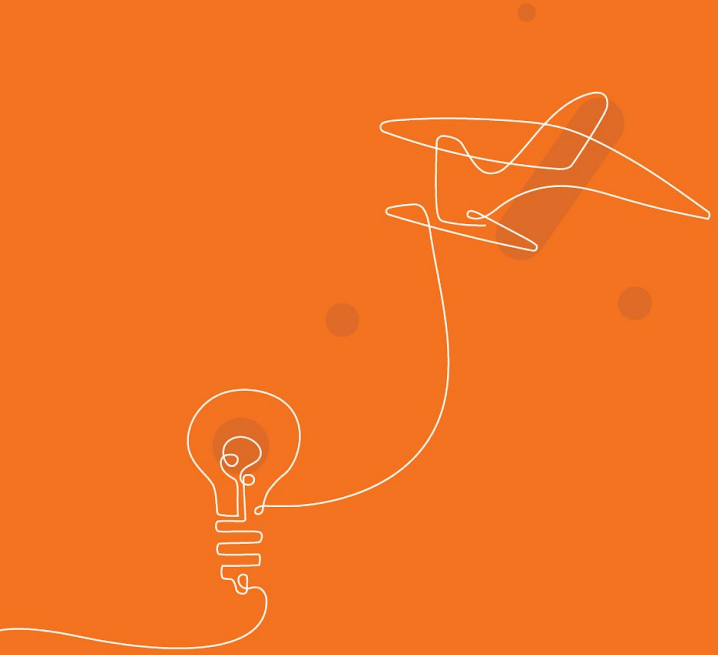
C In the offline preparation guide

B The Program Hub

D The unit map and coherence flowchart

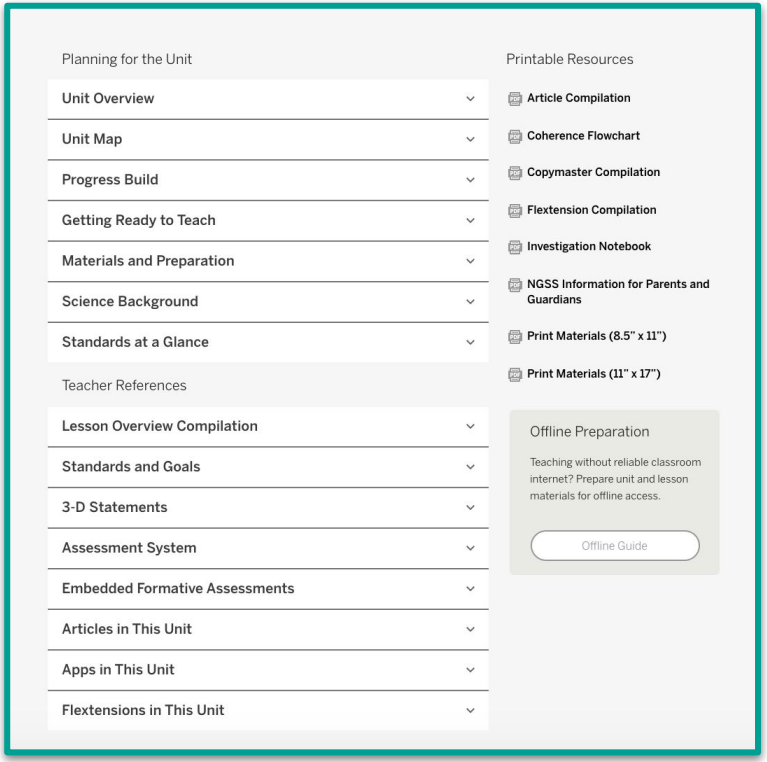


Questions?



Unit Internalization

Unit Guide Resources



Unit Guide resources

Once a unit is selected, select **JUMP DOWN TO UNIT GUIDE** in order to access all unit-level resources in an Amplify Science unit.

Planning for the unit

Unit Overview	Describes what's in each unit, the rationale, and how students learn across chapters
Unit Map	Provides an overview of what students figure out in each chapter, and how they figure it out
Progress Build	Explains the learning progression of ideas students figure out in the unit
Getting Ready to Teach	Provides tips for effectively preparing to teach and teaching the unit in your classroom
Materials and Preparation	Lists materials included in the unit's kit, items to be provided by the teacher, and briefly outlines preparation requirements for each lesson
Science Background	Adult-level primer on the science content students figure out in the unit
Standards at a Glance	Lists Next Generation Science Standards (NGSS) (Performance Expectations, Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts), Common Core State Standards for English Language Arts, and Common Core State Standards for Mathematics

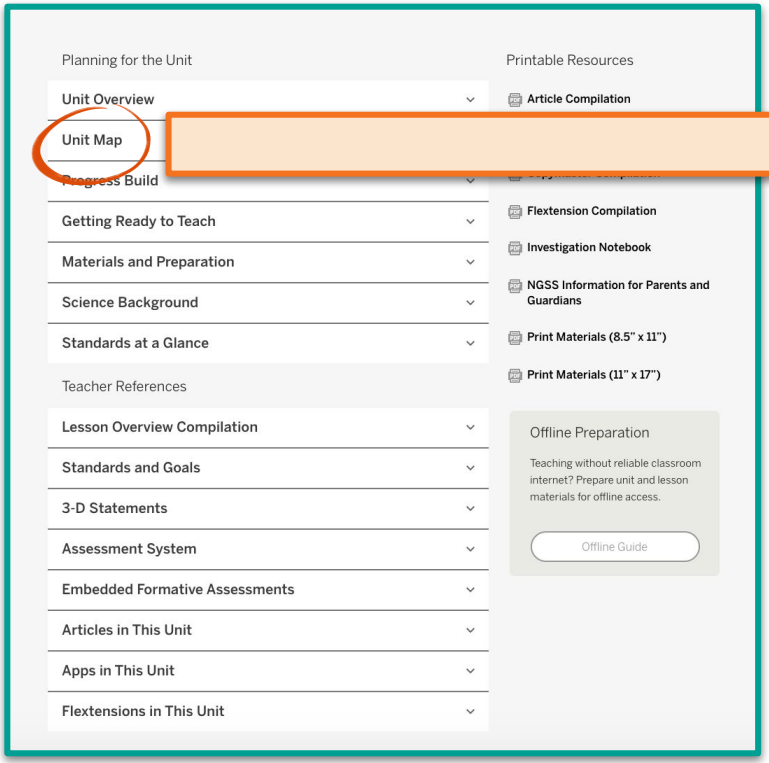
Teacher references

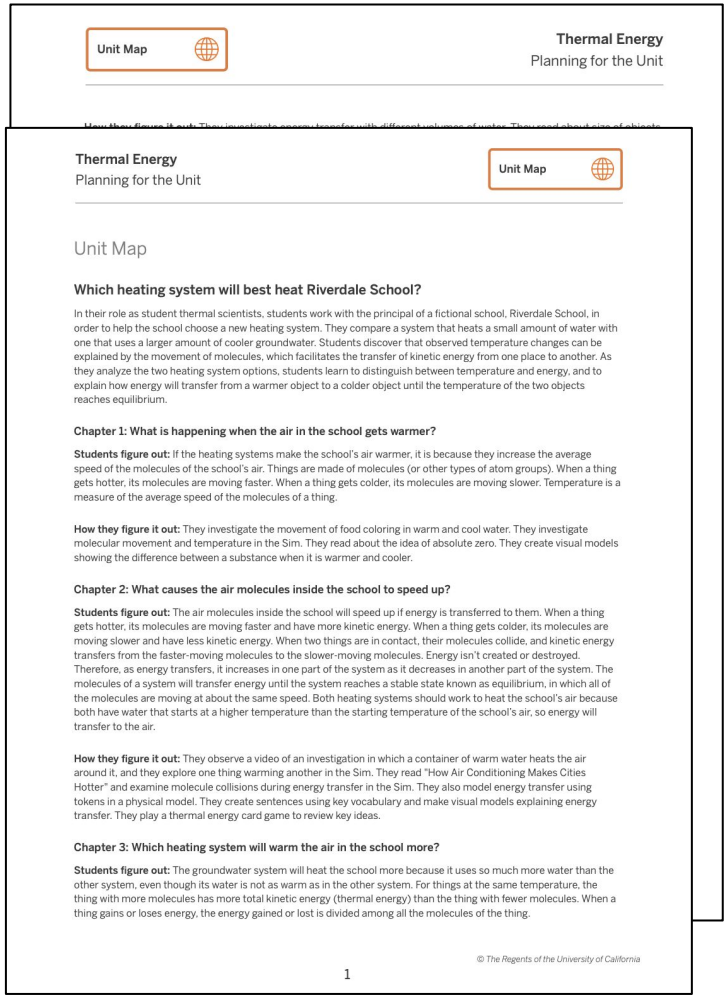
Lesson Overview Compilation	Lesson Overview of each lesson in the unit, including lesson summary, activity purposes, and timing
Standards and Goals	Lists NGSS (Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts) and CCSS (English Language Arts and Mathematics) in the unit, explains how the standards are reached
3-D Statements	Describes 3-D learning across the unit, chapters, and in individual lessons
Assessment System	Describes components of the Amplify Science Assessment System, identifies each 3-D assessment opportunity in the unit
Embedded Formative Assessments	Includes full text of formative assessments in the unit
Books in This Unit	Summarizes each unit text and explains how the text supports instruction
Apps in This Unit	Outlines functionality of digital tools and how students use them (in grades 2-5)

Printable resources

Copymaster Compilation	Compilation of all copymasters for the teacher to print and copy throughout the unit
Investigation Notebook	Digital version of the Investigation Notebook, for copying and projecting
Multi-Language Glossary	Glossary of unit vocabulary in multiple languages
Print Materials (8.5" x 11")	Digital compilation of printed cards (i.e. vocabulary cards, student card sets) provided in the kit
Print Materials (11" x 17")	Digital compilation of printed Unit Question, Chapter Questions, and Key Concepts provided in the kit

Unit Map





Pages 2-3

Amplify.

Guided Unit Internalization

Part 1: Unit-level internalization

Unit title: Thermal Energy

What is the phenomenon students are investigating in your unit?

Which heating system will best heat Riverdale school?

Unit Question:

Student role:

Thermal Scientists

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

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

Guided Unit Internalization

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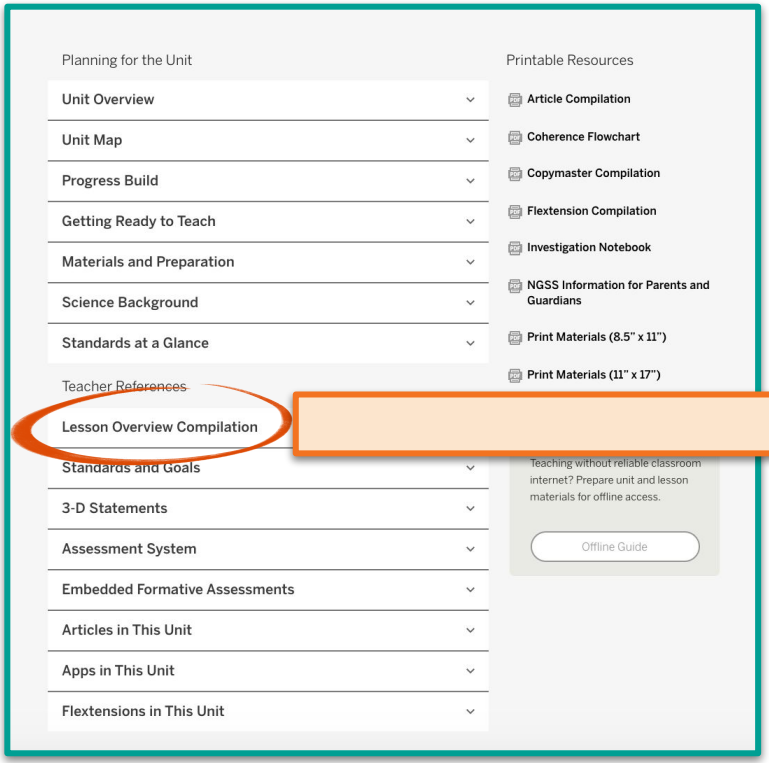
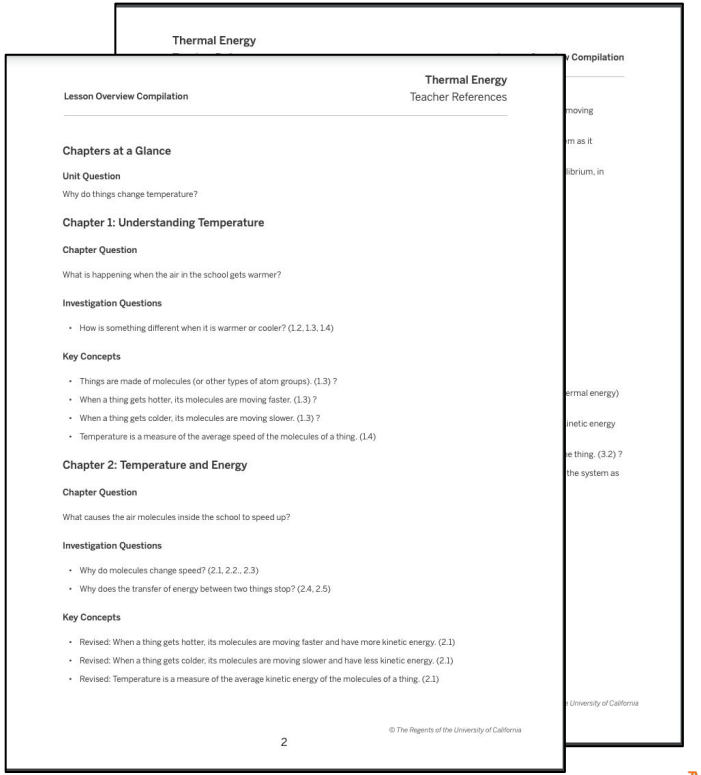
Lesson Overview Compilation

Pages 4-5





Thermal Energy

Lesson Overview Compilation

Thermal Energy
Teacher References

Chapters at a Glance

Unit Question

Why do things change temperature?

Chapter 1: Understanding Temperature

Chapter Question

What is happening when the air in the school gets warmer?

Investigation Questions

- How is something different when it is warmer or cooler? (1.2, 1.3, 1.4)

Key Concepts

- Things are made of molecules (or other types of atom groups). (1.3) ?
- When a thing gets hotter, its molecules are moving faster. (1.3) ?
- When a thing gets colder, its molecules are moving slower. (1.3) ?
- Temperature is a measure of the average speed of the molecules of a thing. (1.4)

Chapter 2: Temperature and Energy

Chapter Question

What causes the air molecules inside the school to speed up?

Investigation Questions

- Why do molecules change speed? (2.1, 2.2., 2.3)
- Why does the transfer of energy between two things stop? (2.4, 2.5)

Key Concepts

- Revised: When a thing gets hotter, its molecules are moving faster and have more kinetic energy. (2.1)
- Revised: When a thing gets colder, its molecules are moving slower and have less kinetic energy. (2.1)
- Revised: Temperature is a measure of the average kinetic energy of the molecules of a thing. (2.1)

Amplify.

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Thermal Scientists

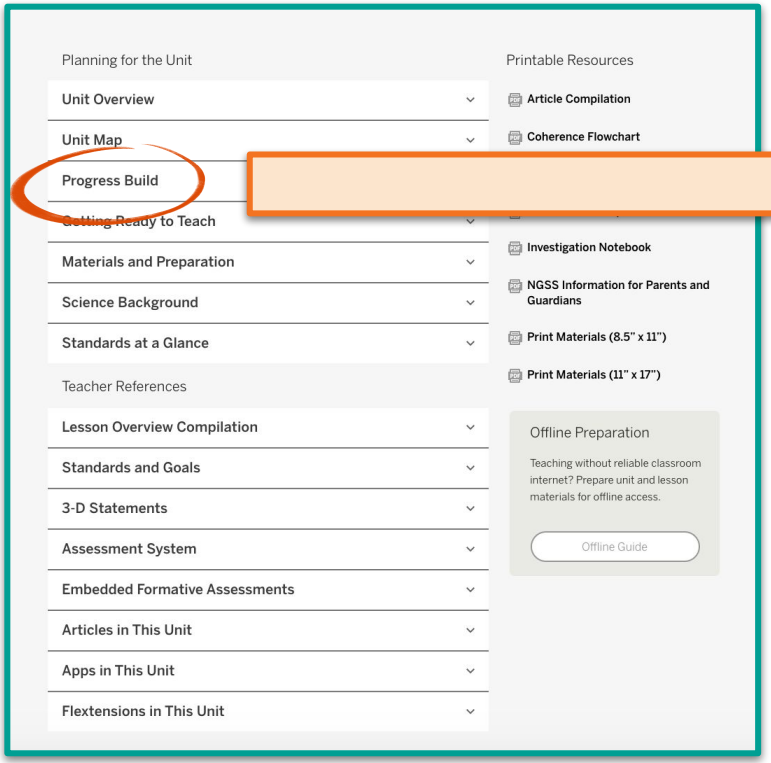
By the end of the unit, students figure out ...

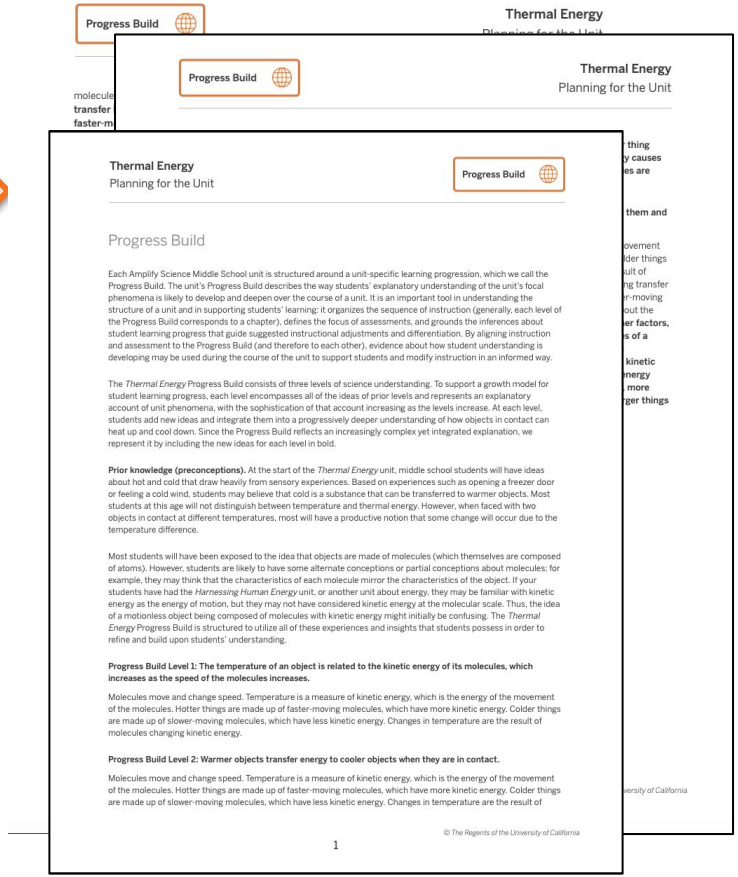
The groundwater system will heat the school more because it uses so much more water than the other system, even though its water is not as warm as in the other system. For things at the same temperature, the thing with more molecules has more total kinetic energy (thermal energy) than the thing with fewer molecules. When a thing gains or loses energy, the energy gained or lost is divided among all the molecules of the thing.

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

Progress Build

Pages 6-7





Amplify.

Guided Unit Internalization

Part 1: Unit-level internalization

Unit title: Thermal Energy

What is the phenomenon students are investigating in your unit?

Which heating system will best heat Riverdale school?

Unit Question:
Why do things change temperature?

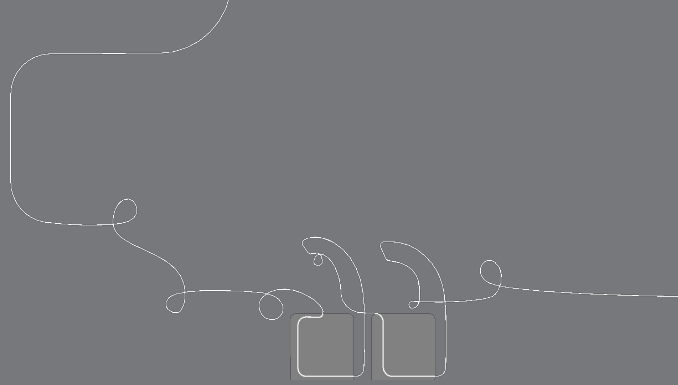
Student role:
Thermal Scientists

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

The groundwater system will heat the school more because it uses so much more water than the other system, even though its water is not as warm as in the other system. For things at the same temperature, the thing with more molecules has more total kinetic energy (thermal energy) than the thing with fewer molecules. When a thing gains or loses energy, the energy gained or lost is divided among all the molecules of the thing.

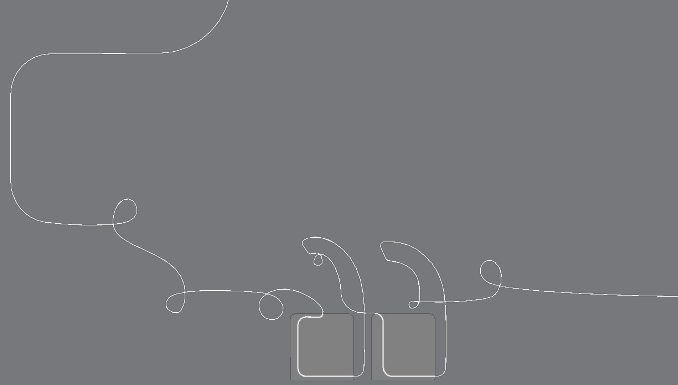
What science ideas do students need to figure out in order to explain the phenomenon?

For things at the same temperature, the thing with more molecules has more total kinetic energy (thermal energy) than the thing with fewer molecules. When a thing gains or loses energy, the energy gained or lost is divided among all the molecules of the thing.



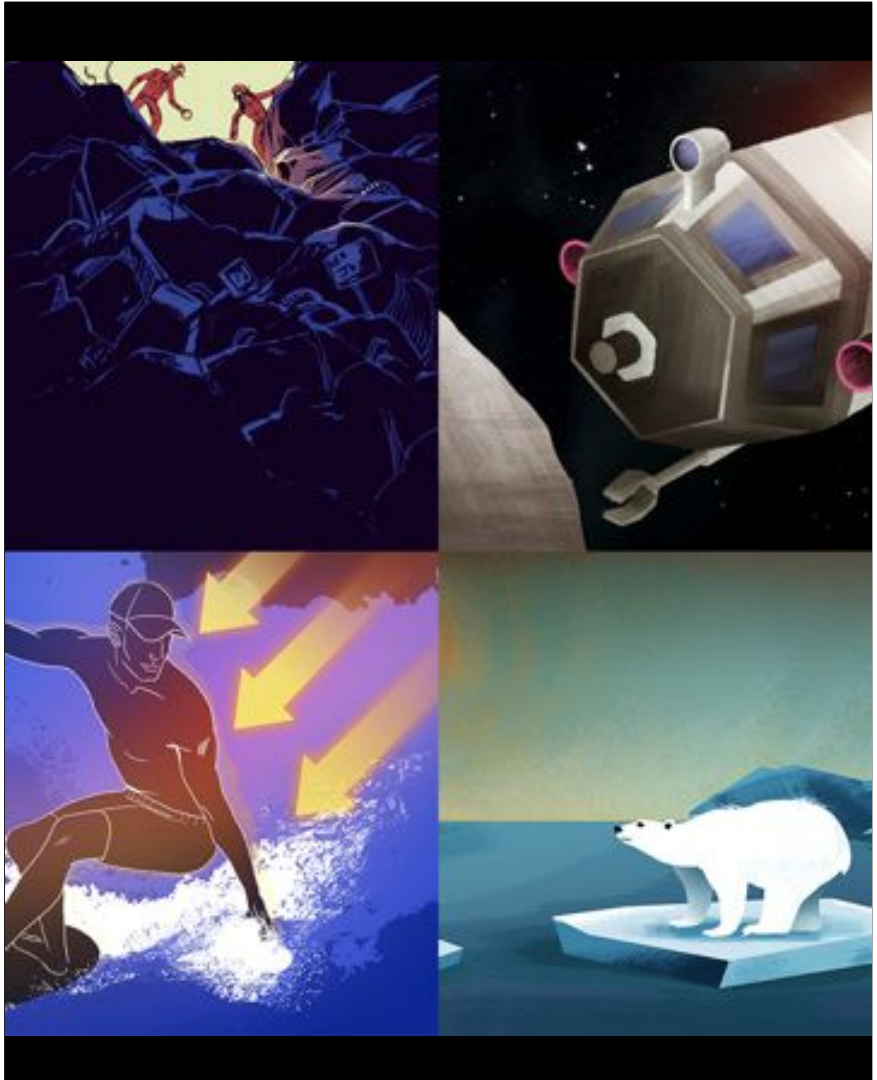
Think & Share:

In 15 words or less, what do students figure out by the **end of the unit**?



Questions?

5 min break



Plan for the day

- Framing the day
  - Welcome and introductions
  - Reflection and vision setting
  - Revisiting the Amplify Approach
- Unit Internalization
- @Home Resources Internalization
  - @Home Units
  - @Home Videos
  - Lesson Level Internalization
  - Resource selection/Guidance
- Guided Planning
  - Planning to Teach using @Home
- Reflection and closing

Navigation Temperature Check

Rate yourself on your comfort level accessing the Amplify Science @Home resources for planning

1 = Extremely Uncomfortable

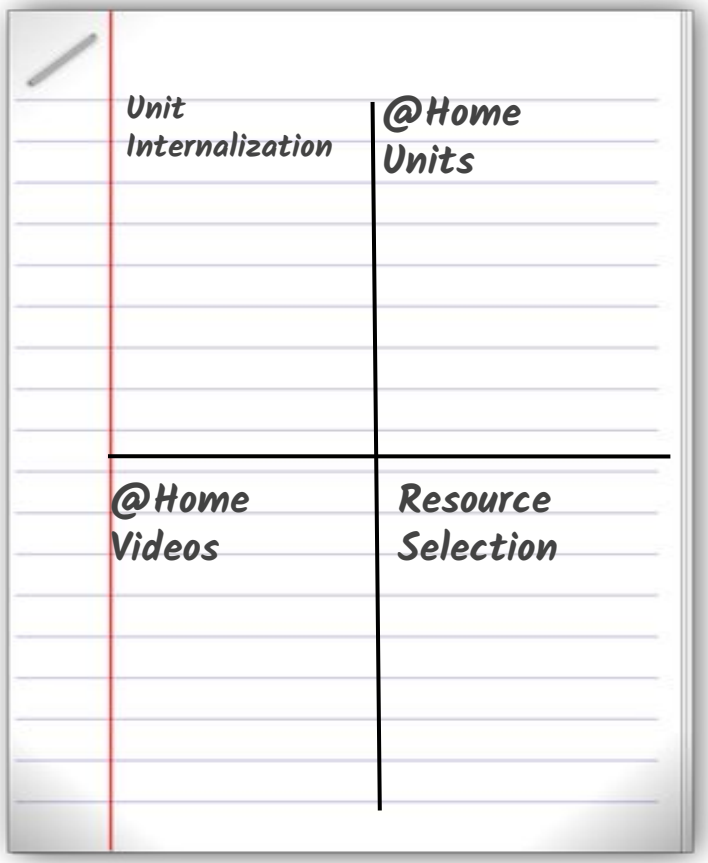
2 = Uncomfortable

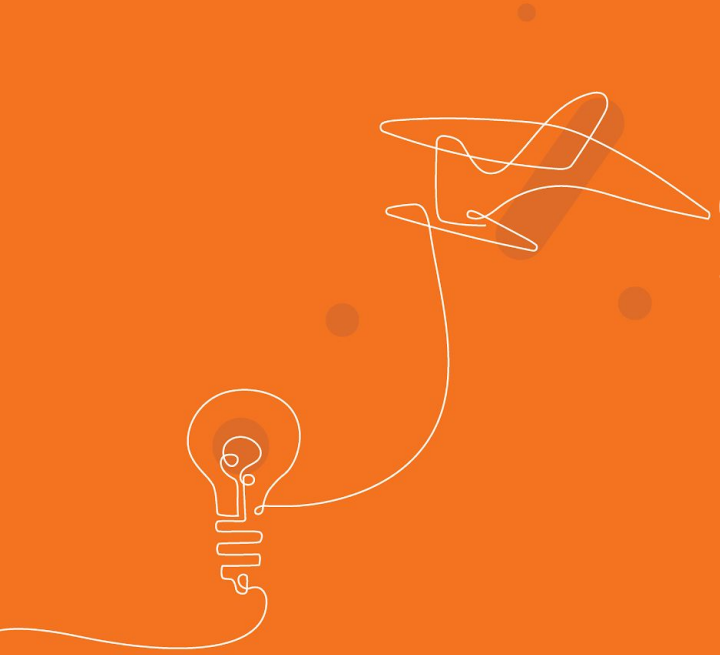
3 = Mild

4 = Comfortable

5 = Extremely Comfortable

Capturing key takeaways!





@Home Resources Internalization

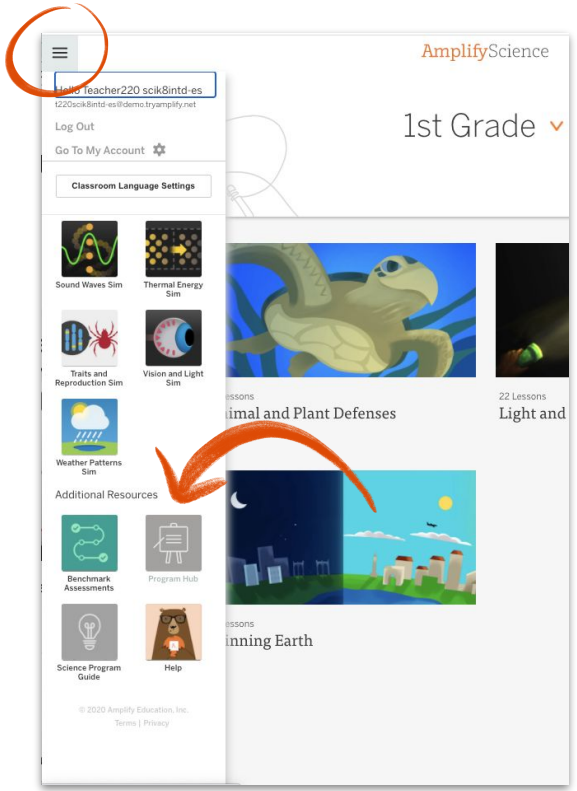
A suite of new resources designed to make extended remote and hybrid learning easier for teachers and students.

Amplify.

Accessing Amplify Science@Home

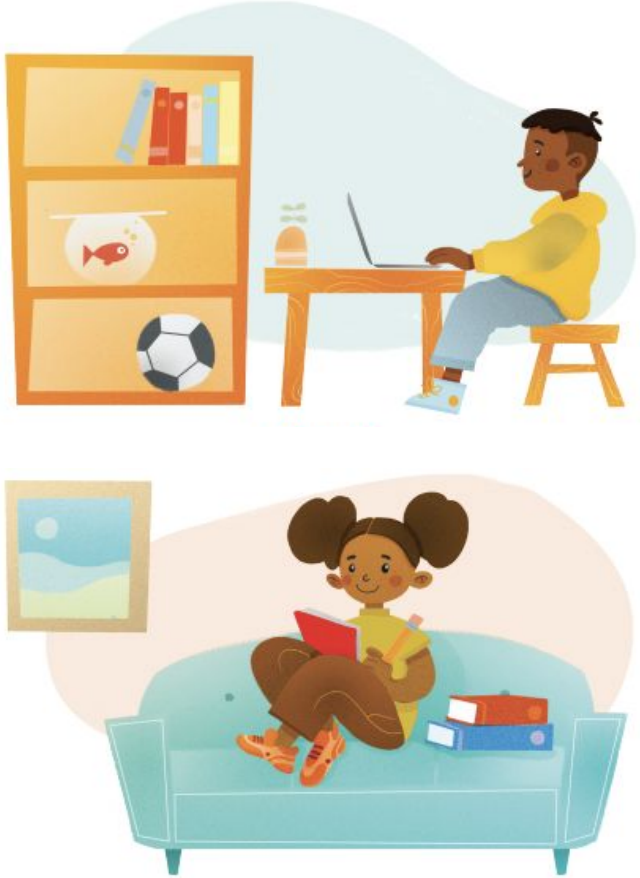
Amplify Science Program Hub

- New site containing Amplify Science@Home and additional PL resources
- Accessible via the Global Navigation menu



AmplifyScience@Home

- Built for a variety of instructional formats
- Digital and print-based options
- No materials required
- Available in English and Spanish (student and family materials)
- Accessible on the Amplify Science Program Hub



AmplifyScience@Home

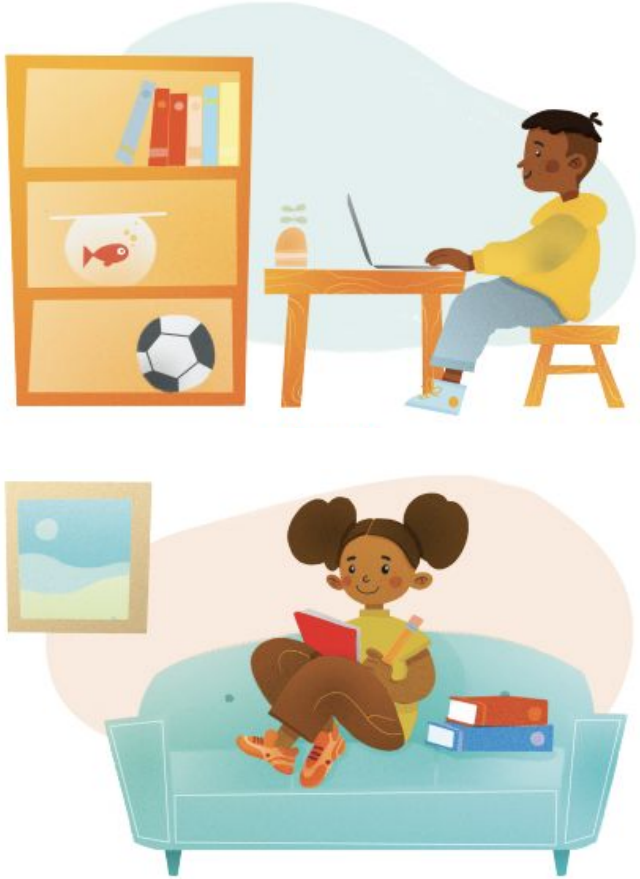
Two different options:

@Home Units

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

@Home Videos

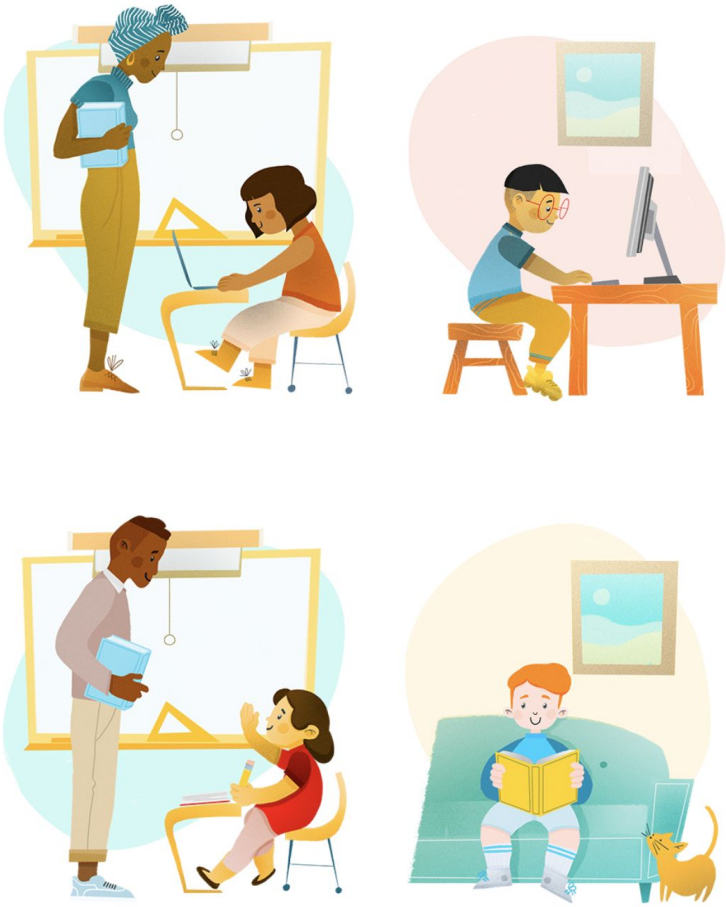
- Video playlists of Amplify Science lessons, taught by real Amplify Science teachers

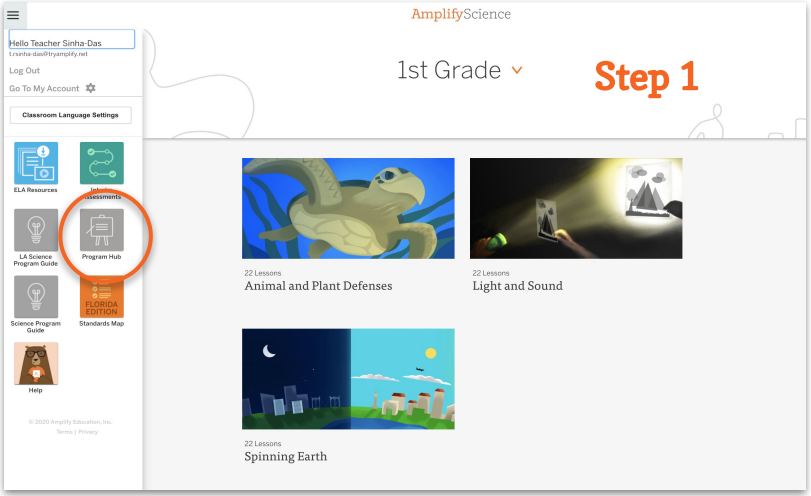


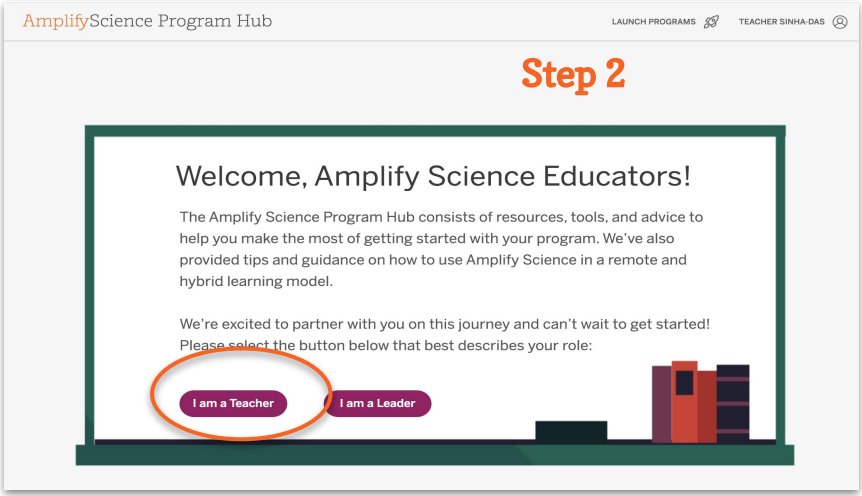
AmplifyScience@Home

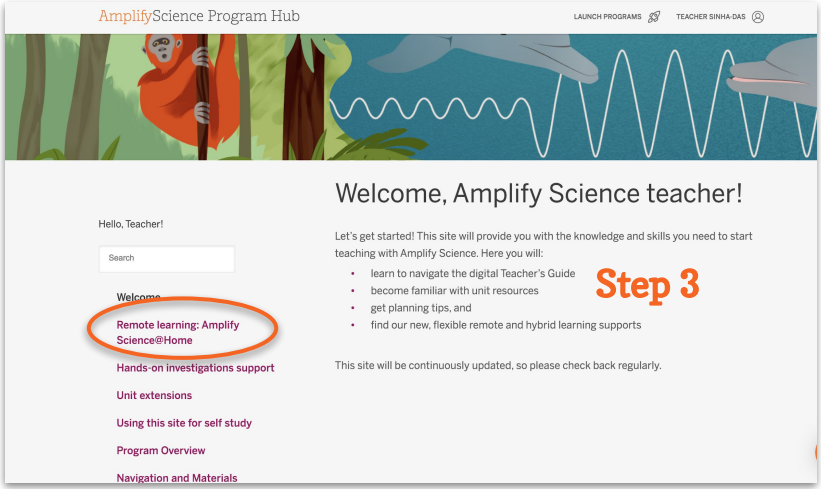
- First unit for each grade level is now available on the Science Program Hub

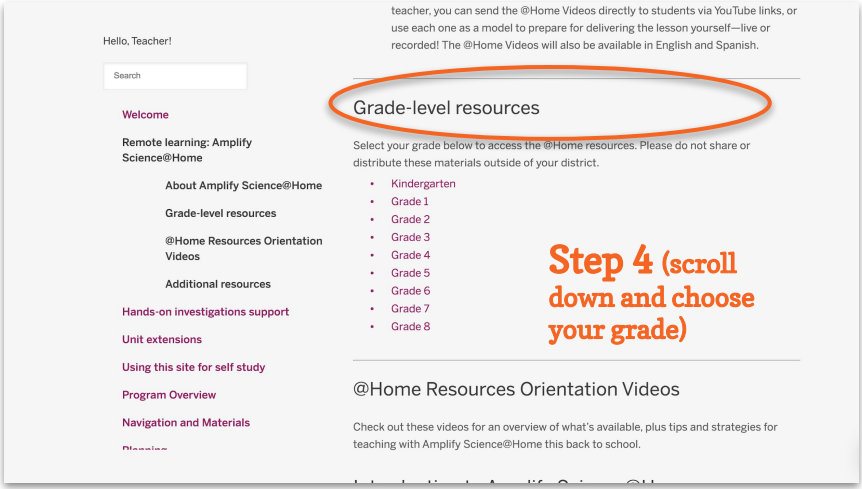
- Additional units rolling out throughout back-to-school




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

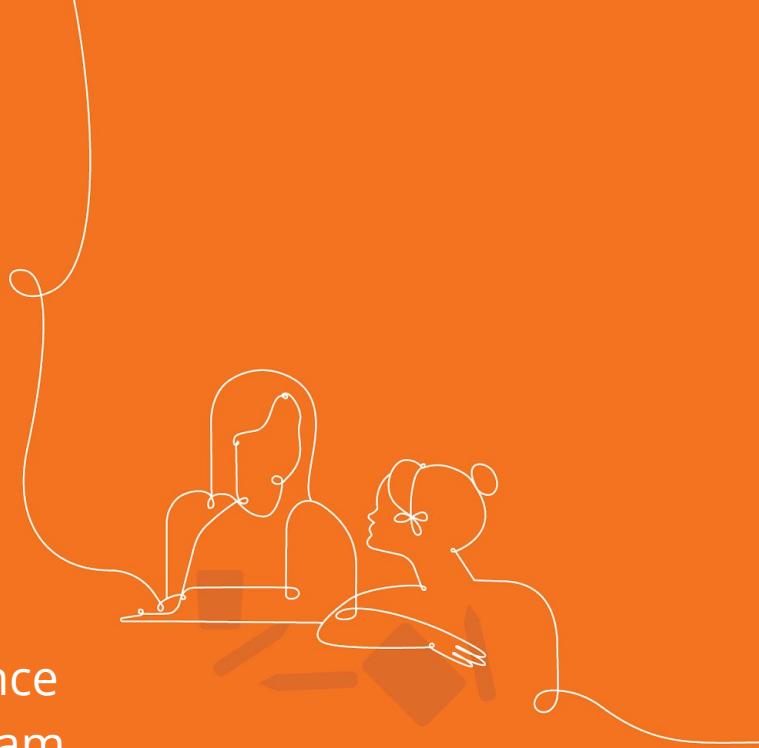

AmplifyScience Program Hub
LAUNCH PROGRAMS
TEACHER SINHA-DAS
Step 2
Welcome, Amplify Science Educators!
The Amplify Science Program Hub consists of resources, tools, and advice to help you make the most of getting started with your program. We've also provided tips and guidance on how to use Amplify 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.

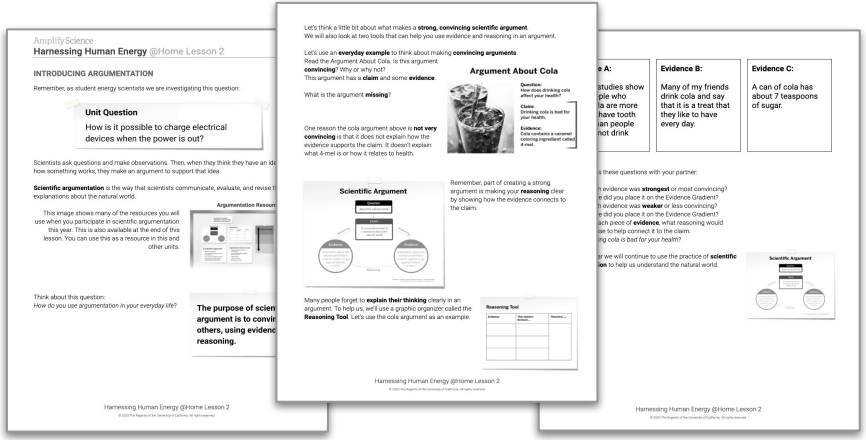
@Home Units

Strategically modified versions of Amplify Science units, highlighting key activities from the program



@Home Units

- Solution for **reduced instructional time**
- Two options for student access



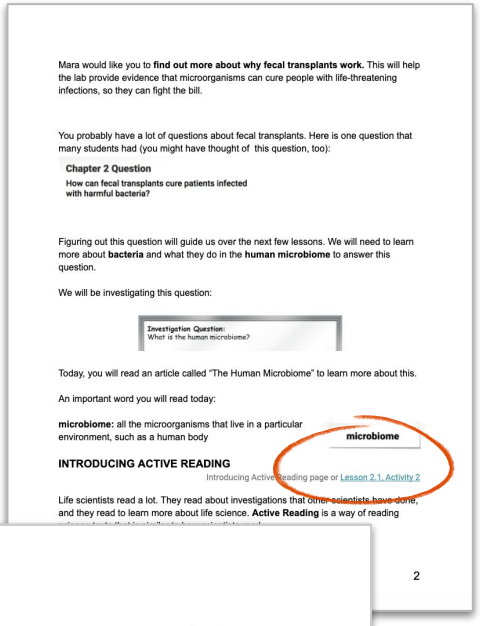
@Home Packets: print-based

@Home Slides and Student Sheets: tech-based

Options for student access

Embedded links to videos:

- Hands-on demonstrations
- Digital tool activities
- Read-alouds



Mara would like you to **find out more about why fecal transplants work.** This will help the lab provide evidence that microorganisms can cure people with life-threatening infections, so they can fight the bill.

You probably have a lot of questions about fecal transplants. Here is one question that many students had (you might have thought of this question, too):

Chapter 2 Question

How can fecal transplants cure patients infected with harmful bacteria?

Figuring out this question will guide us over the next few lessons. We will need to learn more about **bacteria** and what they do in the **human microbiome** to answer this question.

We will be investigating this question:

Investigation Question:
What is the human microbiome?

Today, you will read an article called "The Human Microbiome" to learn more about this.

An important word you will read today:

microbiome: all the microorganisms that live in a particular environment, such as a human body

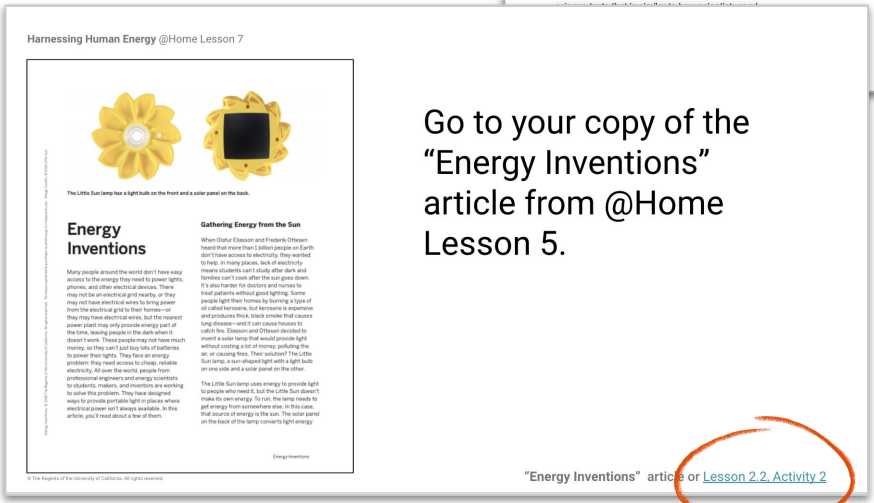
microbiome

INTRODUCING ACTIVE READING

Introducing Active Reading page or Lesson 2.1, Activity 2

Life scientists read a lot. They read about investigations that other scientists have done, and they read to learn more about life science. **Active Reading** is a way of reading

2



Harnessing Human Energy @Home Lesson 7

The Little Sun lamp has a light bulb on the front and a solar panel on the back.

Energy Inventions

Gathering Energy from the Sun

Many people around the world don't have easy access to the energy they need to power lights, phones, and other electrical devices. There may not be an electrical grid nearby, or they may not have electrical wires to bring power from the electrical grid to their homes—or they may have electrical wires, but the nearest power plant may only provide energy part of the time, leaving people in the dark when it doesn't work. These people may not have much money, so they can't just buy lots of batteries to power their lights. They face an energy problem: they need access to cheap, reliable electricity. All over the world, people from professional engineers and energy scientists to students, makers, and inventors are working to solve this problem. They have designed ways to provide portable light in places where electrical power isn't always available. In this article, you'll read about a few of them.

When Olafur Eliasson and Frederik Ottesen heard that more than 1 billion people on Earth don't have access to electricity, they wanted to help. In many places, lack of electricity means students can't study after dark and families can't cook after the sun goes down. It's also harder for doctors and nurses to treat patients without good lighting. Some people light their homes by burning a type of oil called kerosene, but kerosene is expensive and produces thick, black smoke that causes lung disease—and it can cause houses to catch fire. Eliasson and Ottesen decided to invent a solar lamp that would provide light without costing a lot of money, polluting the air, or causing fires. Their solution? The Little Sun lamp, a sun-shaped light with a light bulb on one side and a solar panel on the other.

The Little Sun lamp uses energy to provide light to people who need it, but the Little Sun doesn't make its own energy. To run, the lamp needs to get energy from somewhere else. In this case, that source of energy is the sun. The solar panel on the back of the lamp converts light energy

Energy Inventions

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Go to your copy of the "Energy Inventions" article from @Home Lesson 5.

"**Energy Inventions**" article or Lesson 2.2, Activity 2

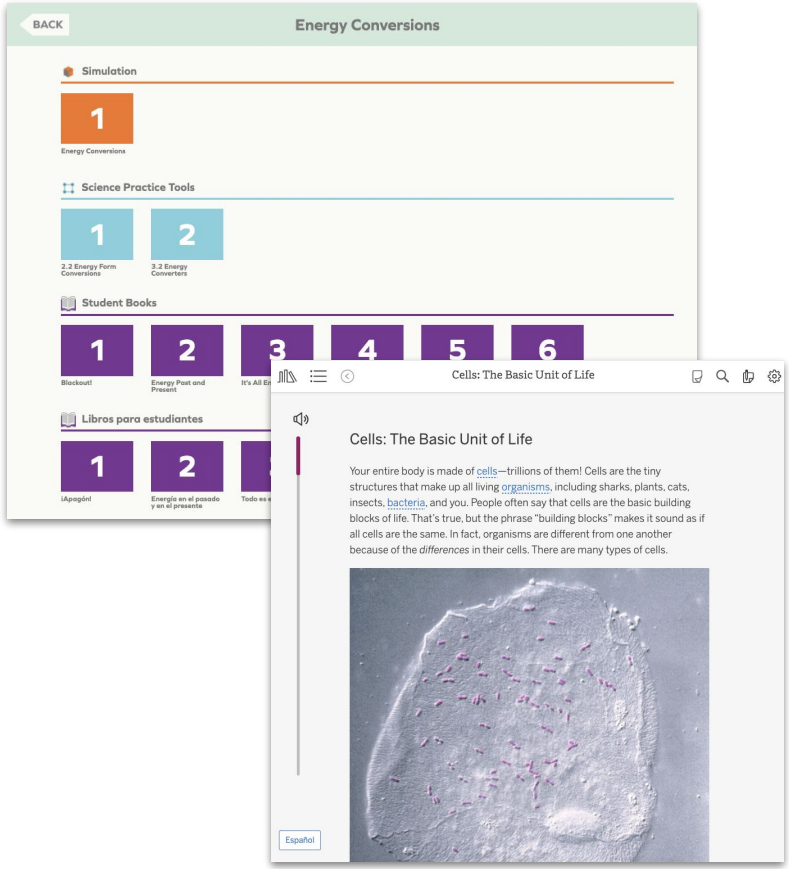
Options for student access

Alternative to embedded video links

Access via curriculum:

- Science practice tools
- Simulations
- Amplify Library

Hands-on demos accessible only via embedded YouTube links

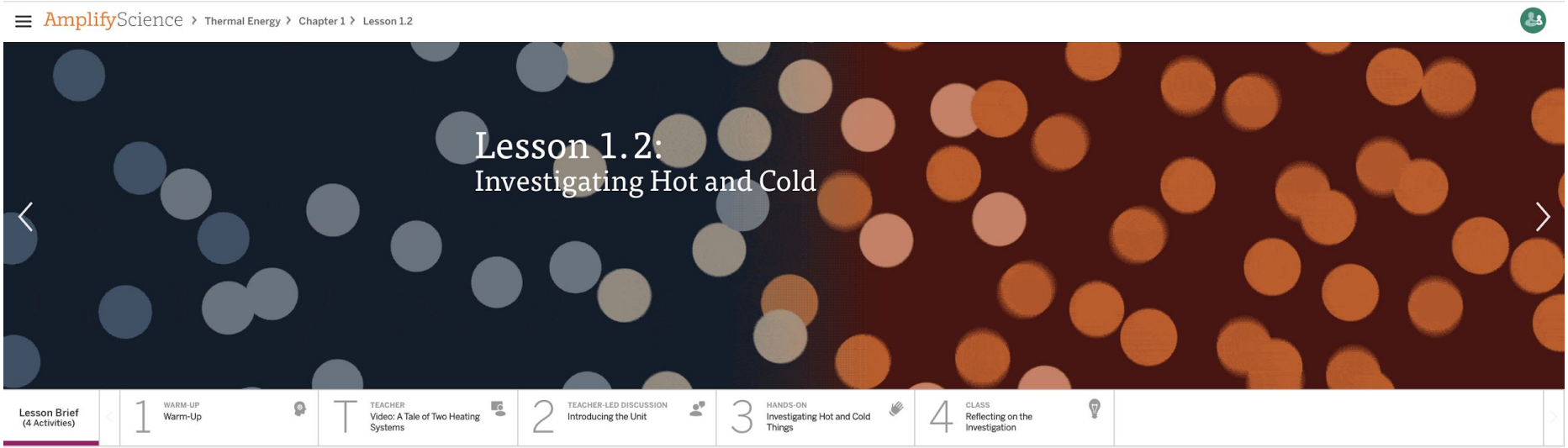


@Home Unit resources

All resources are fully editable and customizable

- **Family Overview**
  - Provides context for families
- **Teacher Overview**
  - Outlines the unit and summarizes each lesson
  - Suggestions for adapting for different scenarios
- **Student materials**
  - ~30-minute lessons (slide decks or packets) featuring prioritized activities from Amplify Science curriculum

Example lesson: *Thermal Energy 1.2*



@Home Lesson : Amplify Science lesson 1.2

@Home Lesson 1

Adapted from: Amplify Science *Metabolism* Lesson 1.2

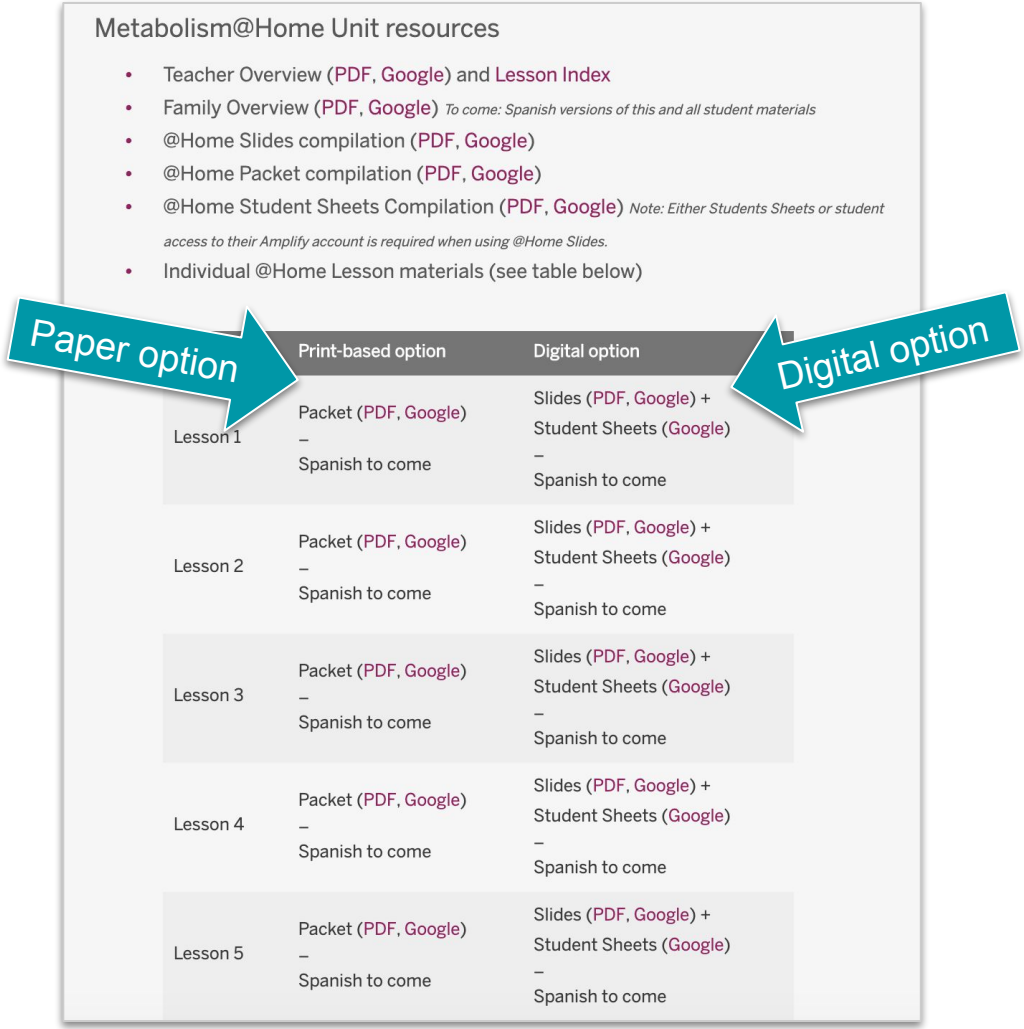
Key Activities

- **Introducing the Thermal Energy Unit:** Students are introduced to the unit problem and their role as thermal scientists. As thermal scientists they will work to solve a problem with a school's heating system. Students watch a video to clarify their role and the problem.
- **Do:** Students will determine how warm and cold water differ and how the difference in temperature affects the spread of food coloring. Students will watch the @Home video to observe students completing this hands on activity.
- **Reflect:** Students will consider the initial ideas they had about how substances are different when they are warmer or cooler and determine whether the activity confirmed their thinking or changed their mind.

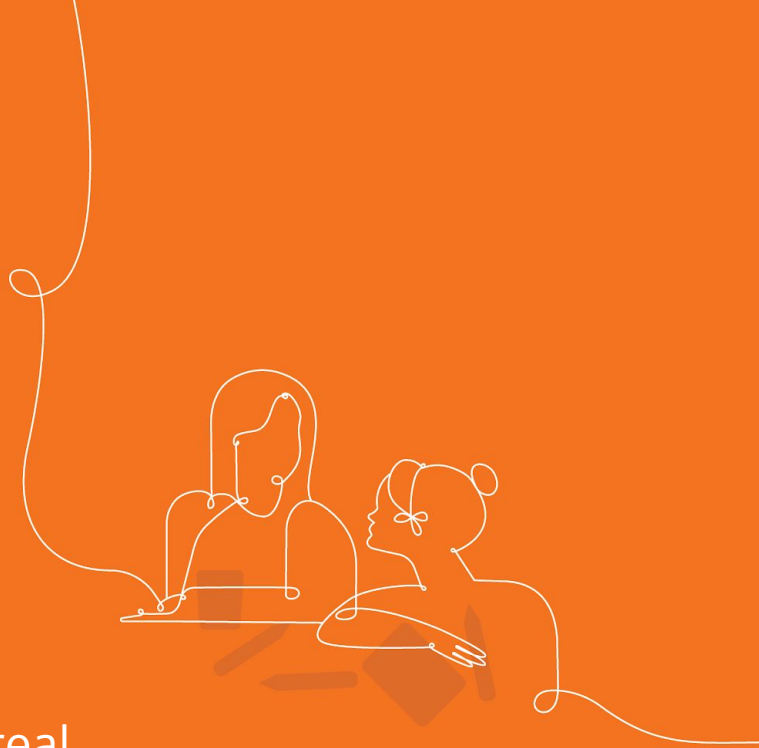
Amplify Science @Home Curriculum

You have will have access to the Thermal Energy @Home Unit late November 2020.

The Thermal Energy @Home Unit has a paper option and a digital option. Each lesson is written to be **30 minutes** long.



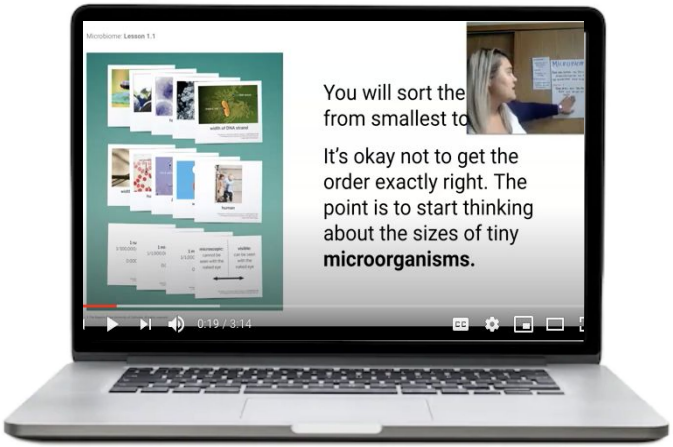
@Home Videos



Versions of original Amplify Science lessons adapted for remote learning and recorded by real Amplify Science teachers

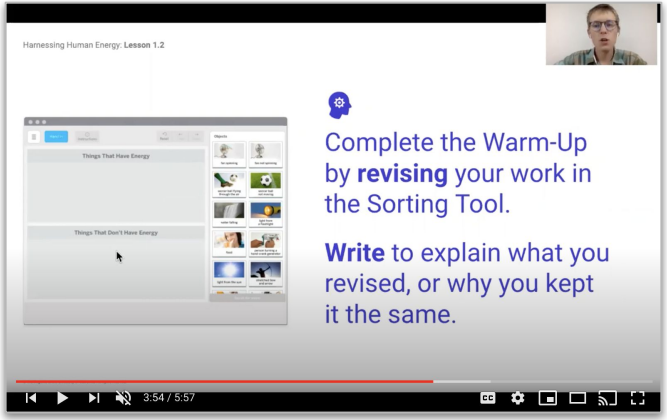
@Home Videos

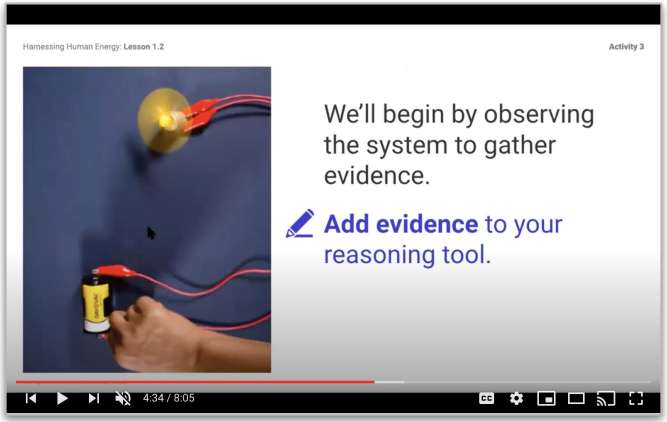
- Lesson playlists include **all activities** from original units
- Great option if have the **same amount of instructional time** as you typically would for science
- Requires **tech access** at home
- Use videos as **models for making your own lesson videos** or leading **online science class**



Interactive video experience

- **Calls to action**
  - Think prompts, pause and take notes, stand up and try it, talk to someone
- **Stand-alone videos within lesson playlists**
  - Read-alouds, digital tool uses, hands-on
- **Options** to use notebooks and/or materials if available





Amplify Science @Home Curriculum

You have access to the Metabolism @Home Videos.

There are 16 @Home Videos for the Metabolism unit. This covers all lessons expect for the assessment lessons (1.1, 2.5, and 4.4). The video playlists on YouTube teach the standard Amplify Science Lessons.

Metabolism@Home Video playlists

Note: Assessment lessons are not included. Spanish videos to come.

Instructions:

- The @Home Videos are separate from the @Home Units. The lessons listed below correspond with the lessons in the full version of Amplify Science. Each lesson is linked to a playlist of recorded versions of the activities that make up that lesson, which you can share with your students

Chapter 1

- Lesson 1.2
- Lesson 1.3

Chapter 2

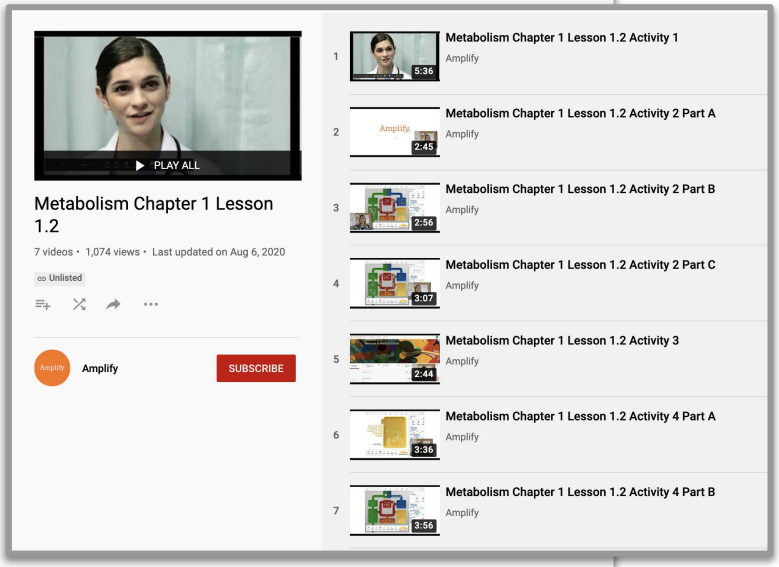
- Lesson 2.1
- Lesson 2.2
- Lesson 2.3
- Lesson 2.4
- Lesson 2.6
- Lesson 2.7

Chapter 3

- Lesson 3.1
- Lesson 3.2
- Lesson 3.3
- Lesson 3.4
- Lesson 3.5

Chapter 4

- Lesson 4.1
- Lesson 4.2
- Lesson 4.3



@Home Videos

Using the resources

- Assign videos for students to watch during remote, asynchronous time
- Leverage synchronous time for live teaching
  - Lots of time? Teach full lessons
  - Less time? Revisit and preview (see table)

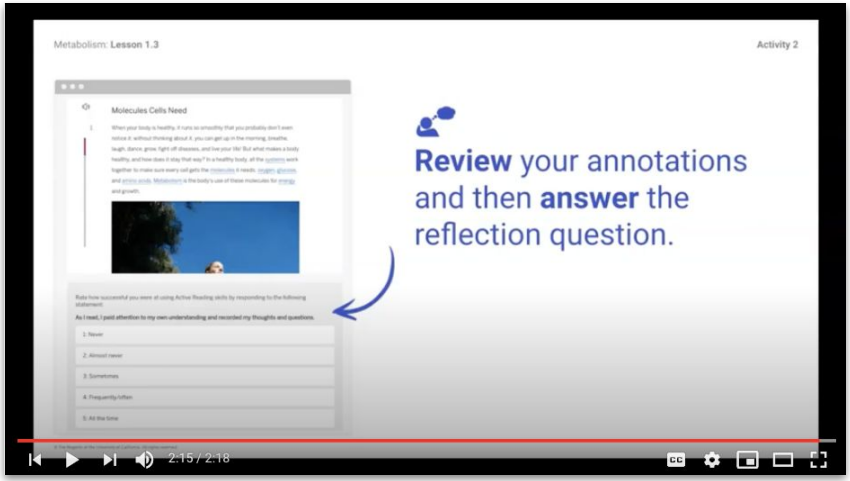
Synchronous time	
In-person	**Online class**
• Discourse routines • Class discussions • Hands-on investigations (option for teacher demo) • Physical modeling activities	• Online discussions • Sim demonstrations • Interactive read-alouds • Shared Writing • Co-constructed class charts

@Home videos

Completing written work

Students can complete written work using:

- Digital student platform
- Investigation Notebook
- Pencil and paper



Teaching Tips:

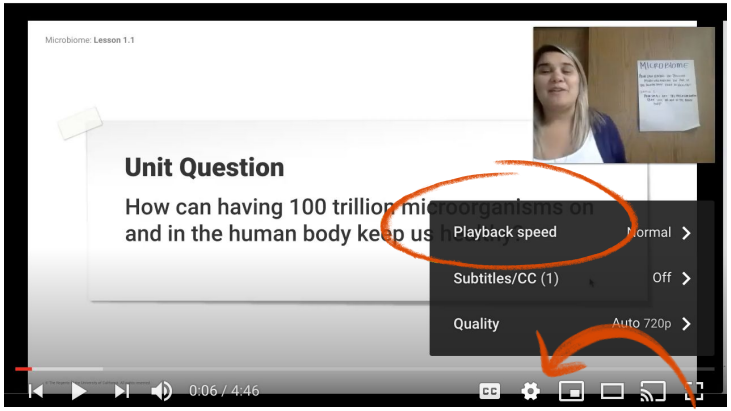
- Use in collaboration with instruction
- Make a plan for how students will **submit** written work.
- Use the **Teacher's Guide** to plan which work products you will collect.

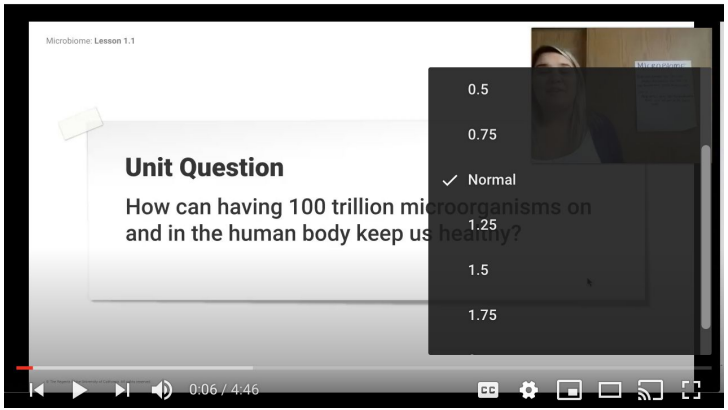
Planning suggestions: @Home Videos

The Teacher's Guide is the best planning tool for @Home videos.

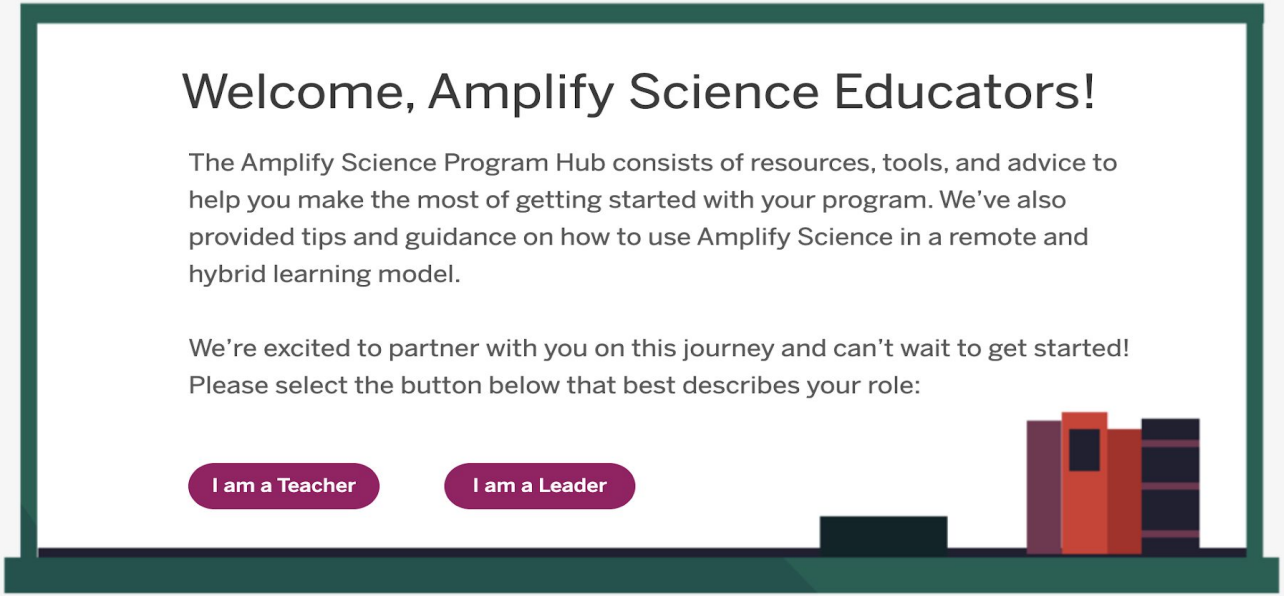
- Use the **Lesson Overview Compilation** in the Unit Guide as a pacing and planning tool.
- Refer to the lessons themselves to plan for synchronous instruction.

Try **adjusting the playback speed** of videos to preview them.





Navigating the Program HUB



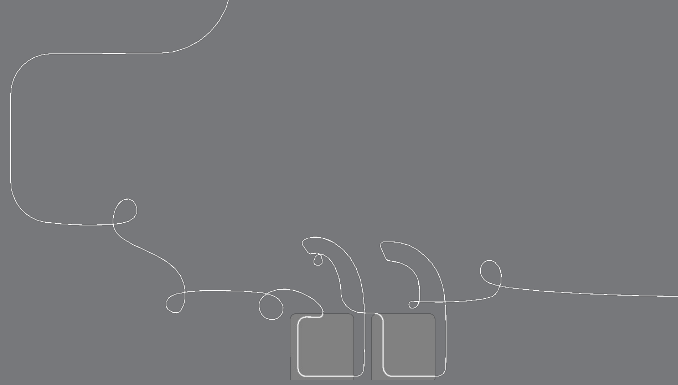
Explore your @Home Unit & @Home Videos

Navigate to Harnessing Human Energy on the Program Hub and explore. You may choose to start with the Teacher Overview, or dig into a lesson.

Consider how this resource can help you reach the vision you set for science this year.

Share insights

1. How could the @Home Unit resources in your remote instruction?
2. How could the @Home video resources in your remote instruction?



Questions?

Navigation Temperature Check

Rate yourself on your comfort level accessing the Amplify Science @Home resources for planning

1 = Extremely Uncomfortable

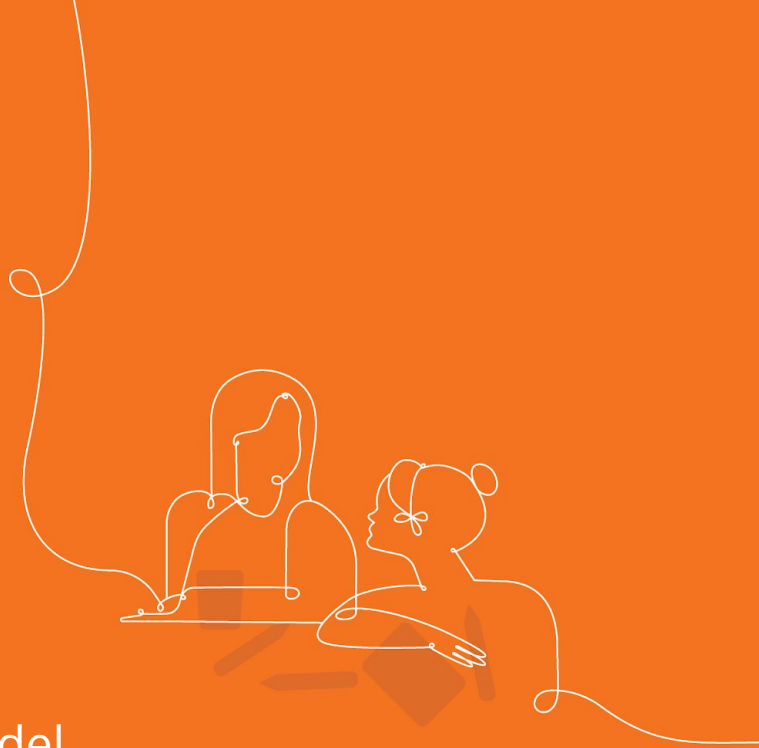
2 = Uncomfortable

3 = Mild

4 = Comfortable

5 = Extremely Comfortable

@Home Resources Lesson Internalization



Determine which resource you will use in accordance with your schools instructional model.

Key Activities

- **Introducing the Thermal Energy Unit:** Students are introduced to the unit problem and their role as thermal scientists. As thermal scientists they will work to solve a problem with a school's heating system. Students watch a video to clarify their role and the problem.
- **Do:** Students will determine how warm and cold water differ and how the difference in temperature affects the spread of food coloring. Students will watch the @Home video to observe students completing this hands on activity.
- **Reflect:** Students will consider the initial ideas they had about how substances are different when they are warmer or cooler and determine whether the activity confirmed their thinking or changed their mind.

Ideas for synchronous or in-person instruction

Before the meeting have students watch the introductory video and share their initial ideas about the school heating systems.

Key Activities

- **Introducing the Thermal Energy Unit:** Students are introduced to the unit problem and their role as thermal scientists. As thermal scientists they will work to solve a problem with a school's heating system. Students watch a video to clarify their role and the problem.
- **Do:** Students will determine how warm and cold water differ and how the difference in temperature affects the spread of food coloring. Students will watch the @Home video to observe students completing this hands on activity.
- **Reflect:** Students will consider the initial ideas they had about how substances are different when they are warmer or cooler and determine whether the activity confirmed their thinking or changed their mind.

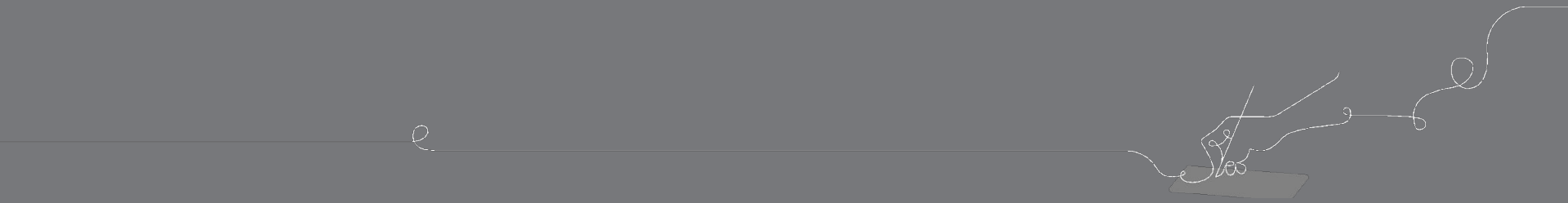
Ideas for synchronous or in-person instruction

Before the meeting have students watch the introductory video and share their initial ideas about the school heating systems.

Reflection

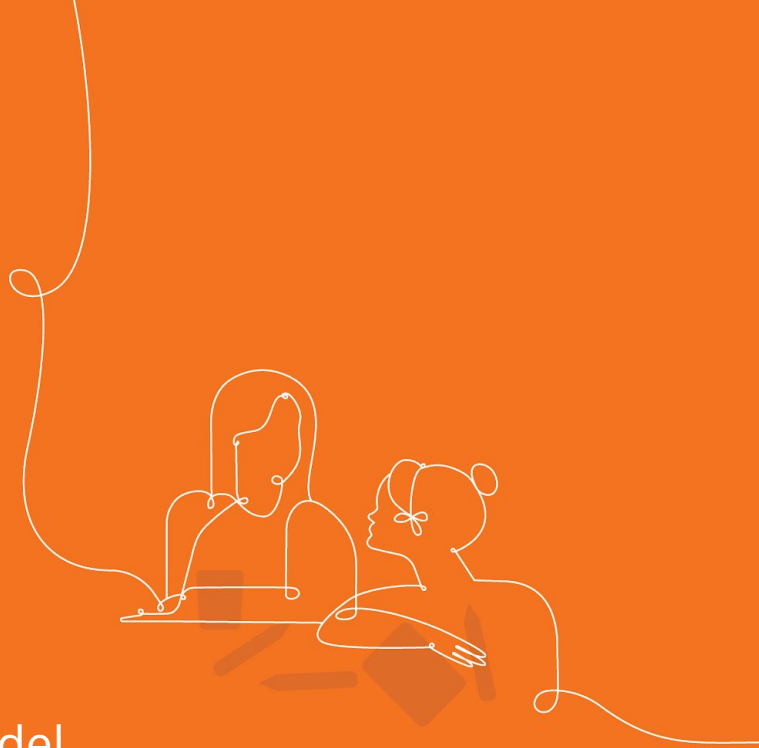
Revisit the vision you set for your students at the beginning of today's session.

How will the Amplify Science@Home resources help you reach that goal?



@Home Resource Selection/ Guidance

Determine which resource you will use in accordance with your schools instructional model.



Which instructional model has your school adopted?

A Hybrid Model

B Remote Only

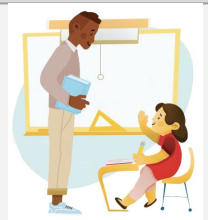
Sample instructional scenario

Hybrid pod model

	M-T	W	Th-F
Pod 1	In class 	Remote online class 	Remote 
Pod 2	Remote 		In class 

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

@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

What resources can my students access?

Reading and digital tool uses

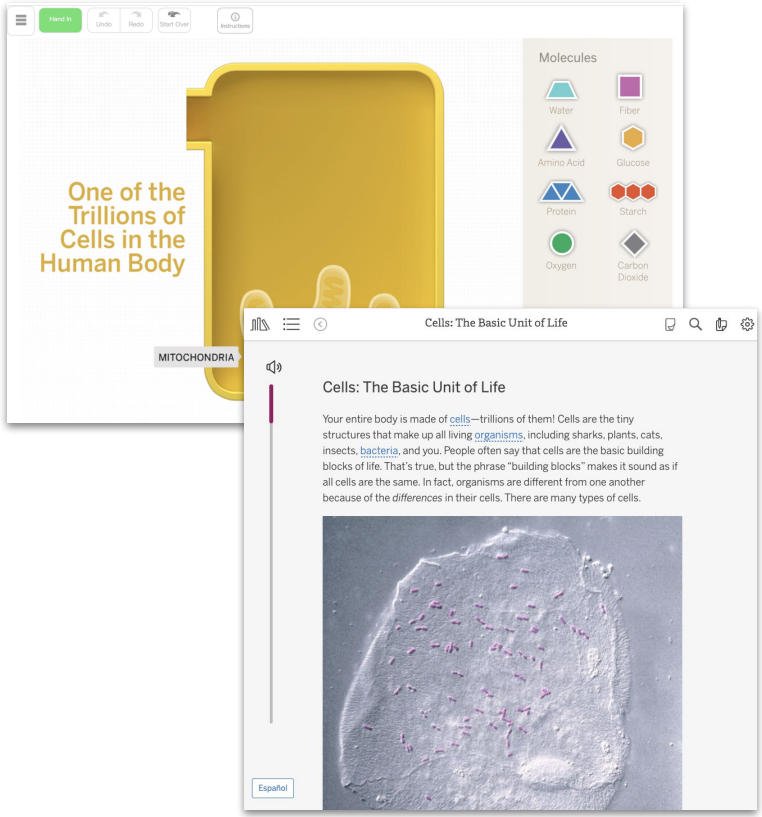
Options for student access

Access via curriculum (students using tablets or laptops):

- Digital tools
- Amplify Library

Access via @Home Videos (students using smartphones):

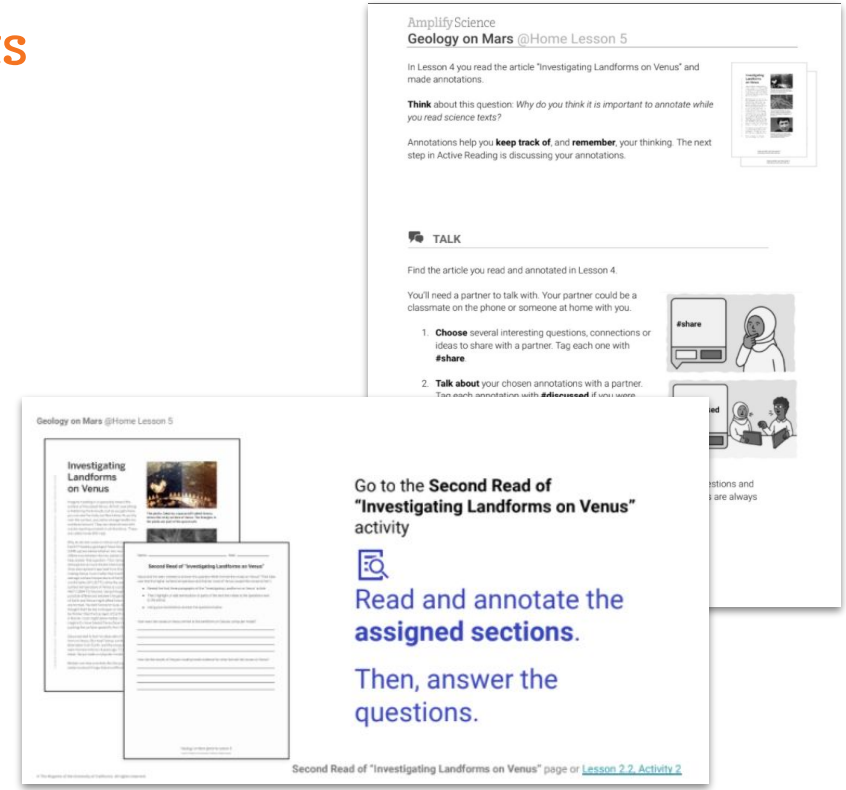
- Read-alouds of articles
- Screencast videos of digital tool uses



@Home Units: student experience

@Home Slides and @Home Packets

- Student-friendly text
- Supportive images (photos and illustrations)
- Activity instructions
- Prompts for writing, discussion, and reflection
- Embedded links to supplementary material



@Home Units: student experience

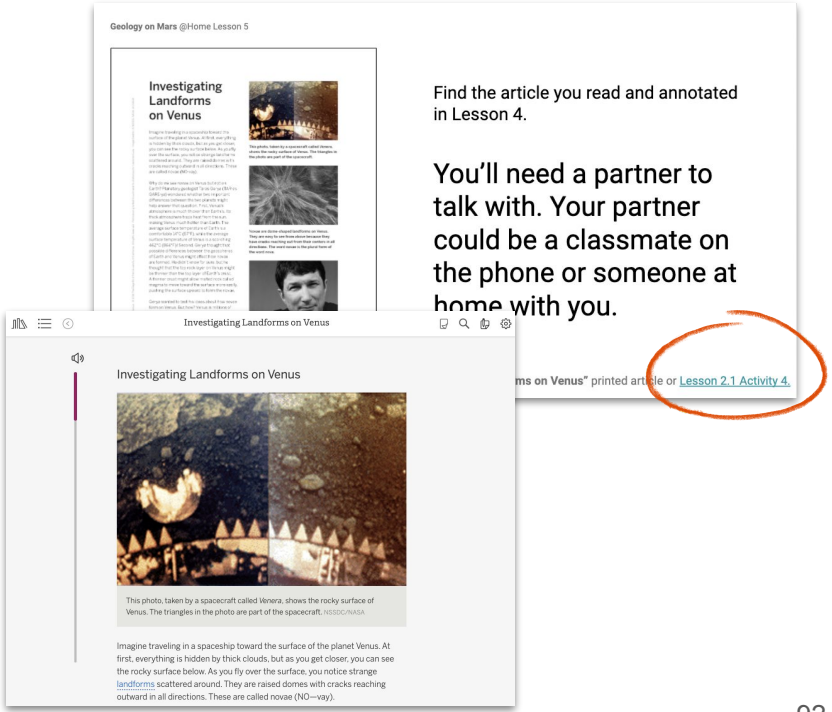
Embedded links in @Home Slides and @Home Packets

Links to curriculum resources:

- Amplify Library
- Sims and digital tools
- Student platform

Links to videos:

- Hands-on demonstrations
- Read-alouds

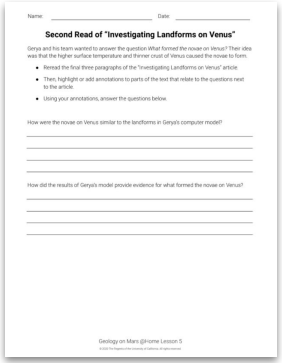


@Home Units: Slides and Student Sheets

Completing written work

Written work can be submitted through the **Amplify Science student platform** or completed using Student sheets.

Student sheets are **not used** with @Home Packets. Students can complete their written work right in the packets.


Second Read of "Investigating Landforms on Venus"

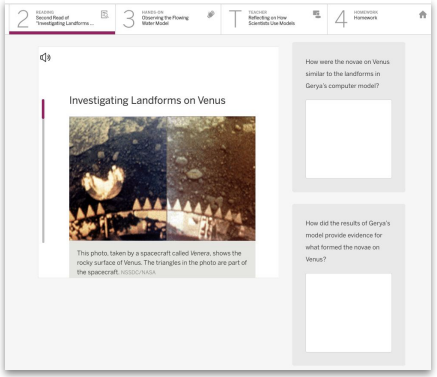
Geryą and his team wanted to answer the question *What formed the novae on Venus?* Their idea was that the higher surface temperature and thinner crust of Venus caused the novae to form.

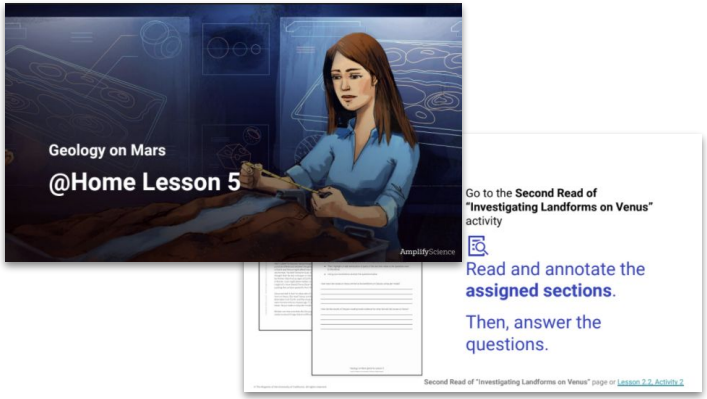
- Reread the final three paragraphs of the "Investigating Landforms on Venus" article.
- Then, highlight or add annotations to parts of the text that relate to the questions next to the article.
- Using your annotations, answer the questions below.

How were the novae on Venus similar to the landforms in Geryą's computer model?

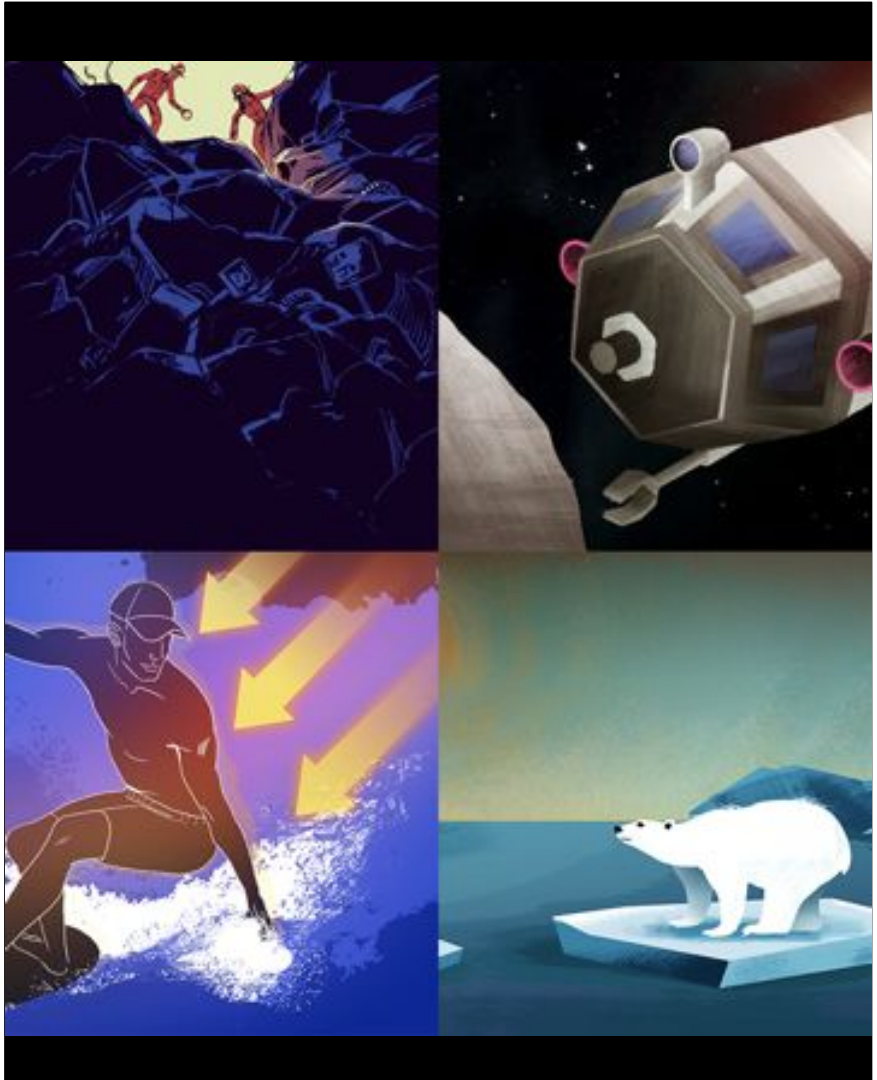
How did the results of Geryą's model provide evidence for what formed the novae on Venus?

Geology on Mars @Home Lesson 5





5 min break



Plan for the day

- Framing the day
  - Welcome and introductions
  - Reflection and vision setting
  - Revisiting the Amplify Approach
- Unit Internalization
- @Home Resources Internalization
  - @Home Units
  - @Home Videos
  - Lesson Level Internalization
  - Resource selection/Guidance
- Guided Planning
  - Planning to Teach using @Home
- Reflection and closing

@Home Unit lesson #: 6		
Date(s) to administer: Thursday, 10/15 & Tuesday, October 20		
Investigation question: Why can an animal live where it does?		
@ Home Unit lesson (asynchronous)		
Key activities from @ Home lesson: • Reviewing Key Concepts and Vocabulary: Students review what they have figured out so far in the unit. • Introducing Investigating: Students are introduced to ideas about how they will investigate questions about plants in this unit. • Do: Students set up an investigation to compare whether or not a garlic clove needs water to grow into a garlic plant. • Draw and Write: Students record their first observation of garlic cloves with water and with no water.	Dates to administer: Thursday, 10/15	Other notes:

Corresponding synchronous ideas		
In-person or remote? ❑ In-person X ❑ Remote	Synchronous activity: Engage students in setting up the investigation of garlic with water and with no water, and then recording their initial observations. Dates(s) to administer: Tuesday, October 20	Other notes: Refer to materials and preparation section of this corresponding lesson in Teacher's Guide Take out slides 14 onwards from Home Slides. Ask students to propose an investigation set-up. Edit slide 14 to include this.
@Home Videos		
Use for synchronous or asynchronous? ❑ Synchronous X ❑ Asynchronous X ❑ Neither If using, note lesson & activity/activities: Use hands-on preparation video	View for best practices? ❑ Yes X ❑ No If yes, notes some best practices: Tips on how to set-up investigation	Other notes: Send investigation video to students who missed in-person demonstration

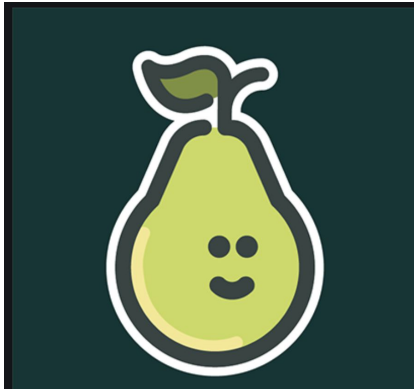
Corresponding original lesson(s)		
Differentiation strategies: • additional teacher modeling in a small group setting • strategic partnering to provide students who need more support with a peer to check in with • write a few sentences that more fully describe what they have recorded about their investigation students who need more challenge	Additional synchronous activity notes: Locate the following materials (*Needs of Plants and Animals* kit)clear plastic cups, 9 oz. • clamp lamp • grow light lightbulb • 2 large planter trays • automatic light timer • grow light lightbulb • 2 large planter trays • automatic light timer Need to provide 2 index cards (3" x 5"), 1 garlic bulb (intact), 2 garlic cloves for each pair of students and 2 for demonstration purposes, pitcher with water, large mixing bowl, large spoon, pair of scissors.	Use any original slides? ❑ Yes X ❑ No Other notes: Slides 21 onwards for in-person
Differentiation plan		
Synchronous, remote ideas: • additional teacher modeling in Zoom break-outs	Synchronous, in-person ideas: • strategic partnering to provide students who need more support with a peer to check in with	Asynchronous ideas: • send scaffolded versions of student sheets to students who need more support

Preparing to teach: Step 3

3rd party applications

1. Edit original **Classroom slides** (for synchronous instruction) or **@Home slides** (synchronous or asynchronous) with usage/inclusion of **apps** such as:
    - Jamboard
    - Pear Deck

2. Upload assignments on to **Google Classroom**



3rd party apps to use		
Using a Jamboard ? ❑ Yes X ❑ No Notes: To answer the question: How can we find out if the garlic plant needs water to live? Using a Pear Deck slide(s)? ❑ Yes X ❑ No Notes: For Critical juncture in activity 1 of original lesson	Google Classroom: Which @Home Resources to upload? ❑ @Home Unit pdf X ❑ @Home Unit slides X ❑ @Home Video url X ❑ Other Notes: Hands-on lesson video for students who missed in-person instruction	Other apps & notes: Flip Grid for audio responses?

Sample Jamboard

We will share our ideas here on how we would test to see if a garlic plant needs water to live.

Sample Pear Deck slide

TEMPLATE LIBRARY

Our Template Library
Explore and add premade content to your lesson

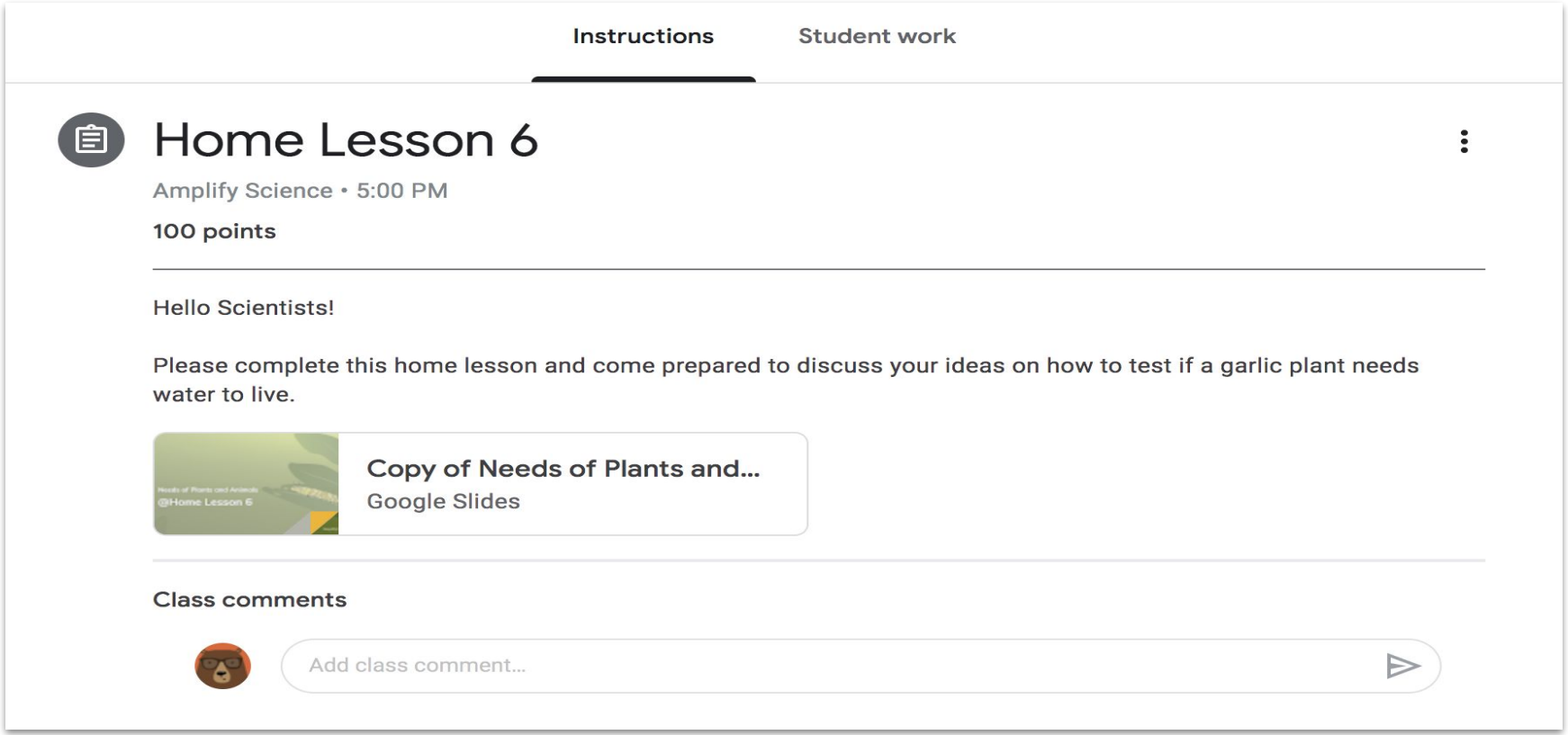
ASK STUDENTS A QUESTION
Adds a question to your current slide:

abc Text | Choice | 123 Number | www Website

Draw | Draggable™

ADD AUDIO
Record or upload audio files for your

Sample Google Classroom entry



Sample Seesaw Slide

Sample Student's Post

In response to: Lesson 1.3 : Activity 1 Describing Tortoise Structures

Amplify Science - Structure-Function

A tortoise uses its mouth to eat leaves.

A tortoise uses its eyes to see.

A tortoise uses its toenails to protect.

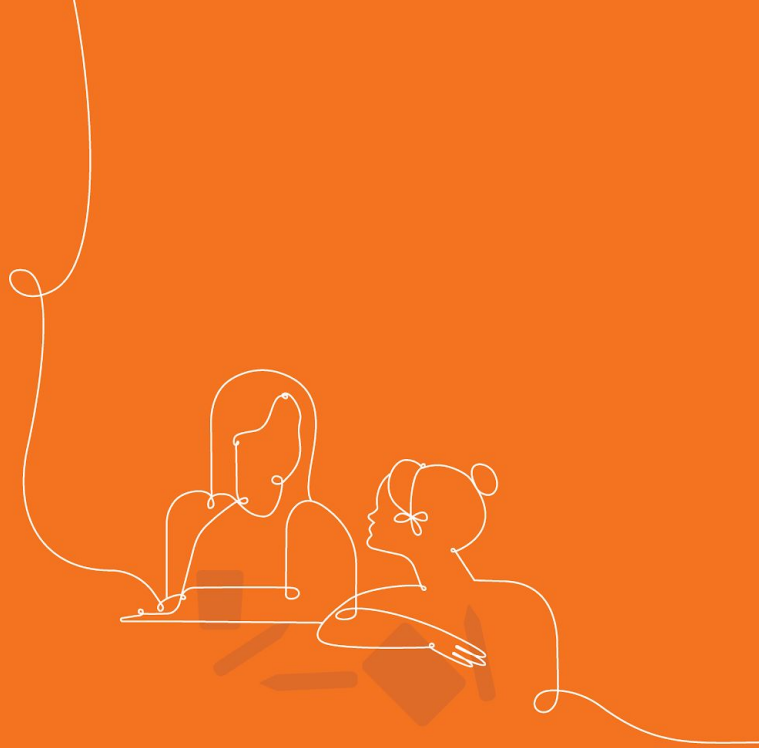
A tortoise uses its shell to dig.

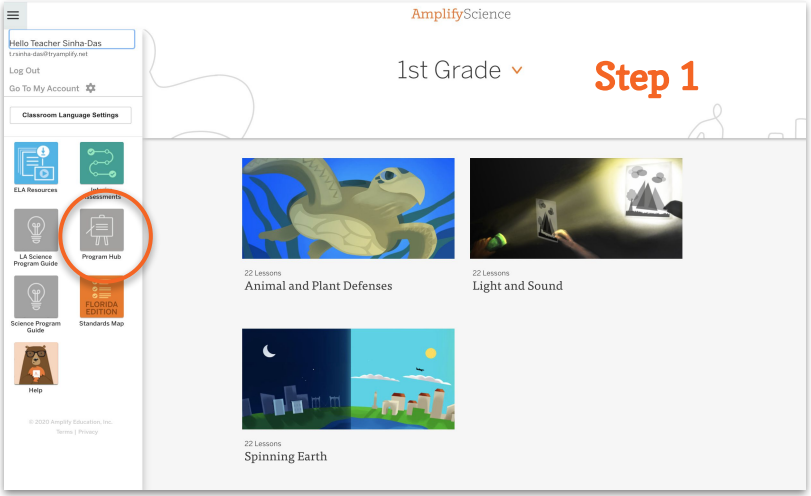
October 21, 2020, 9:46 PM

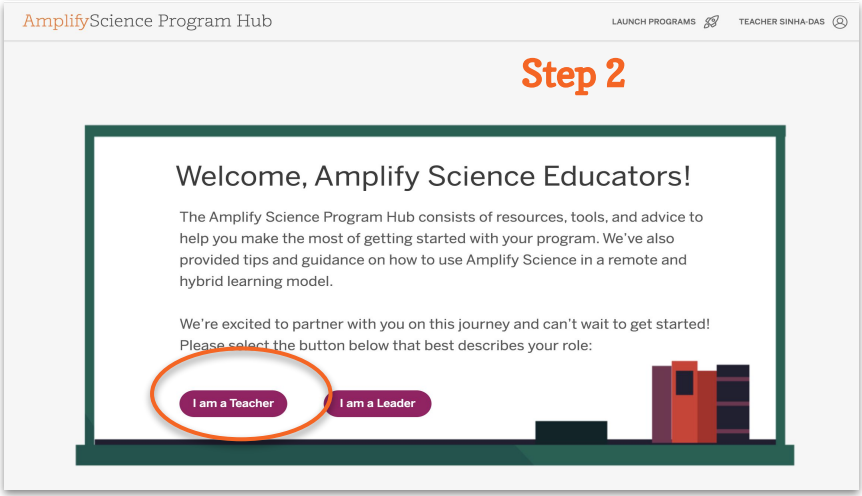
Like Comment

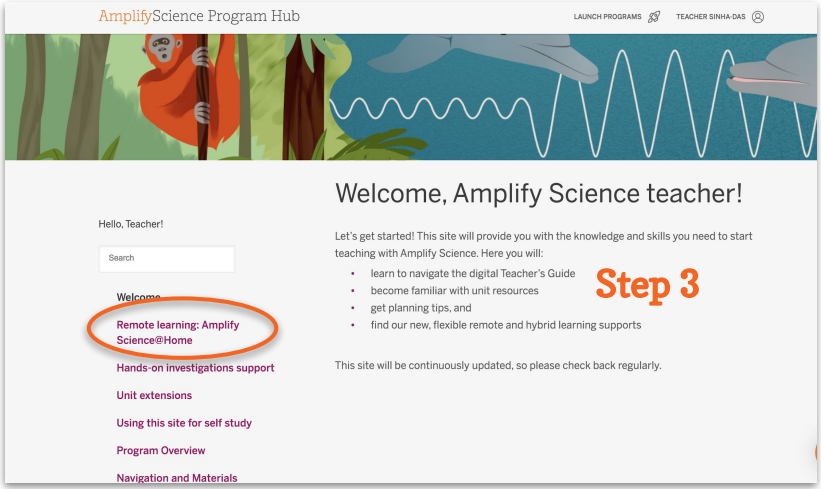
Independent Planning Preparation

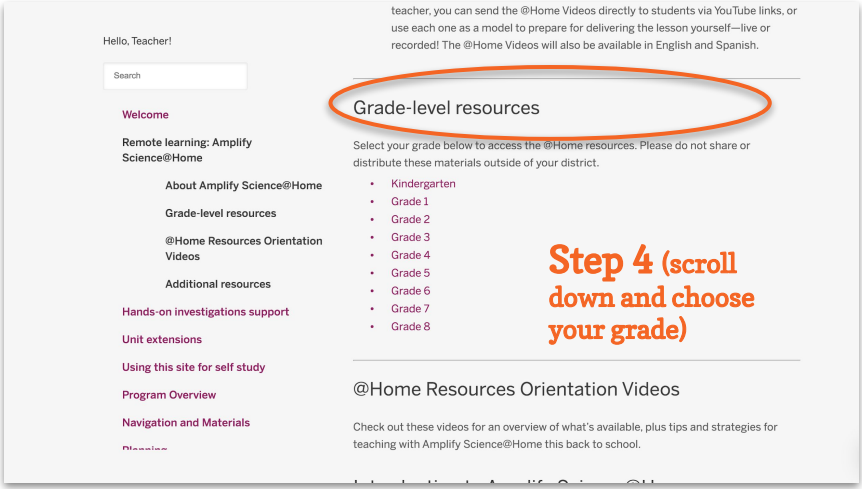
Begin planning for upcoming instruction




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.

Preparing to teach

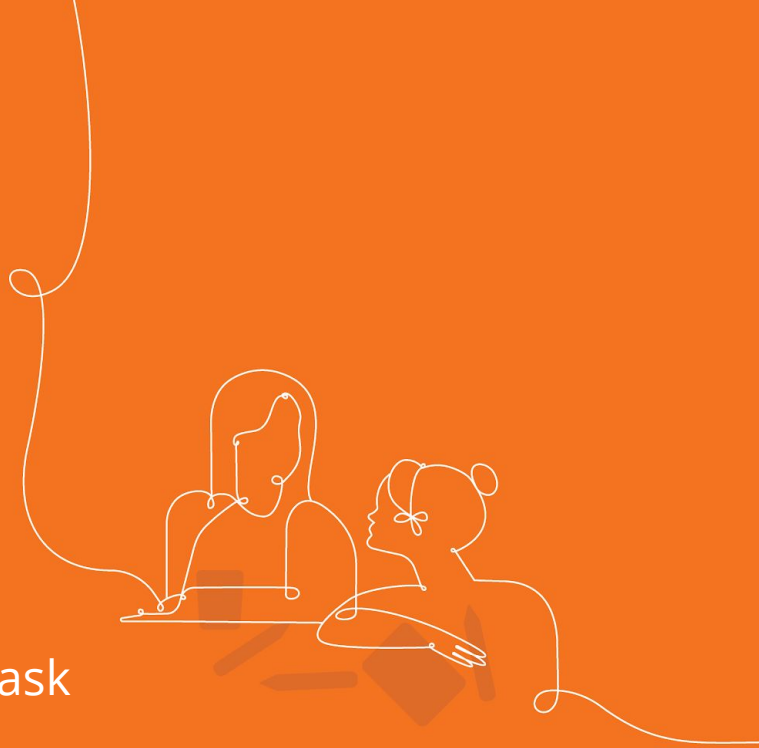
3-step method

1. Program Hub: **@ Home Resources**
2. Teacher's Guide: **Lesson Brief**
3. 3rd party **applications**

5 min break

Guided Planning

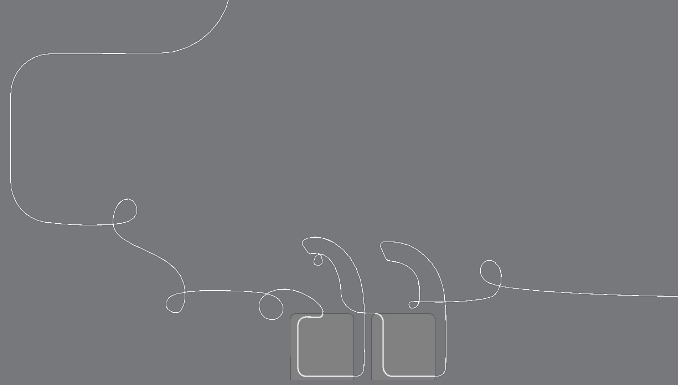
Independent planning with the opportunity to ask questions



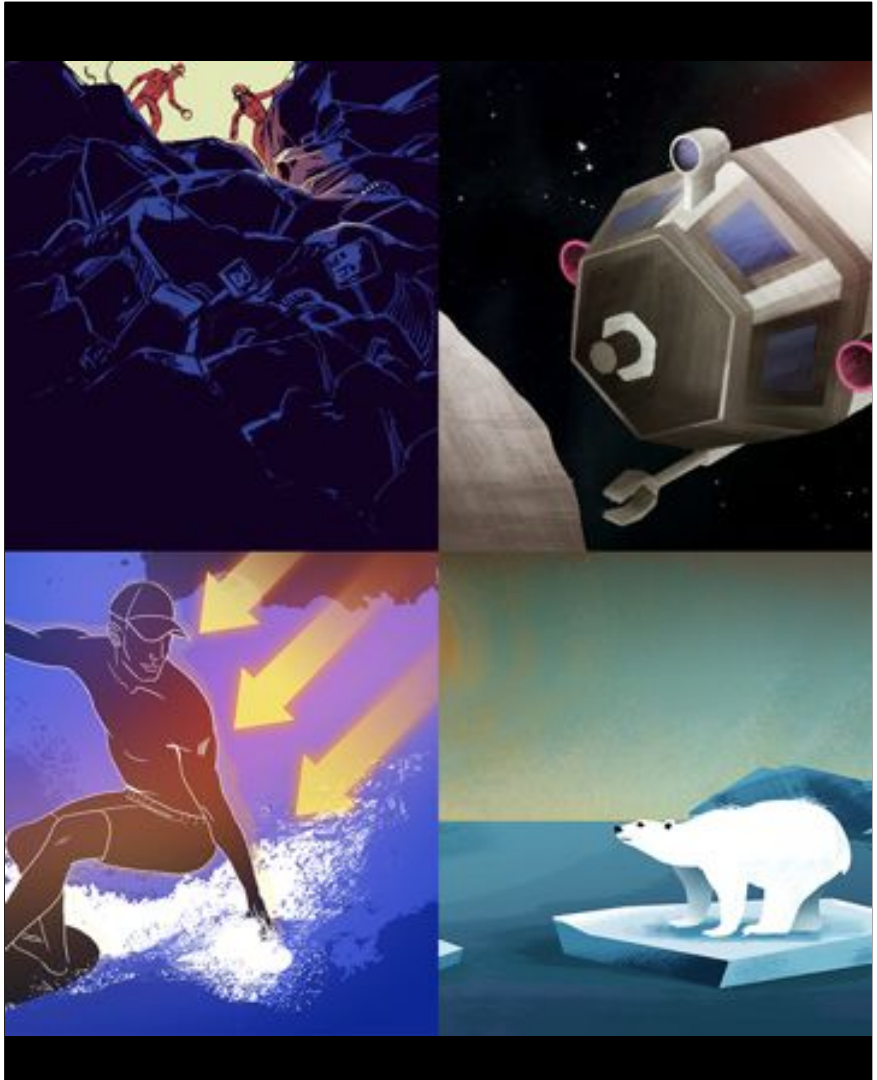
Guided Planning Work Time

Pages 14-16

- Use the planning template and @Home resources (found on the Program HUB) to plan an upcoming lesson
- 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)



Questions?



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- Reflection and closing

Revisiting Our Objective:

- Leverage your understanding of your upcoming unit to make instructional decisions about remote or hybrid learning using the Unit Guide and Amplify Science@Home resources.
- Apply new understanding of the unit to determine which @Home resources best meet the needs of students and give them the most robust experience in figuring out the phenomenon of the unit.
- Plan for the next week of instruction using the @Home resources, your class schedule, instructional format, and internalize the planning protocol to use for future planning.

Revisiting our objectives

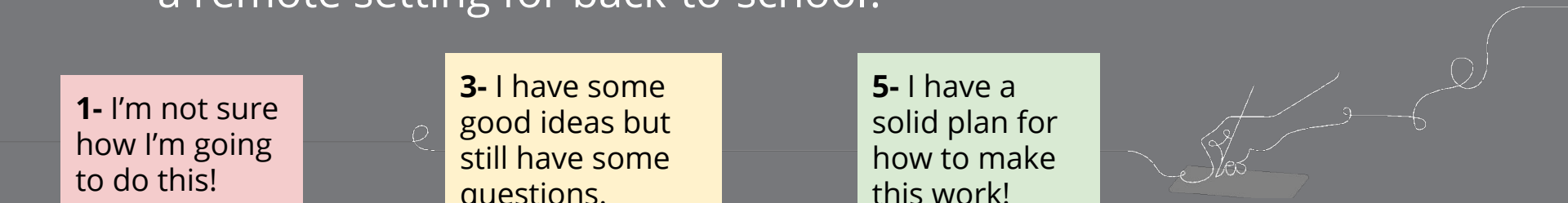
Do you feel ready to…

- Select the Amplify Science@Home resources that best fit your instructional context?
- Internalize tips and strategies for remote and hybrid instruction using Amplify Science@Home?
- Plan how you will leverage Amplify Science@Home resources in a remote setting for back-to-school?

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

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

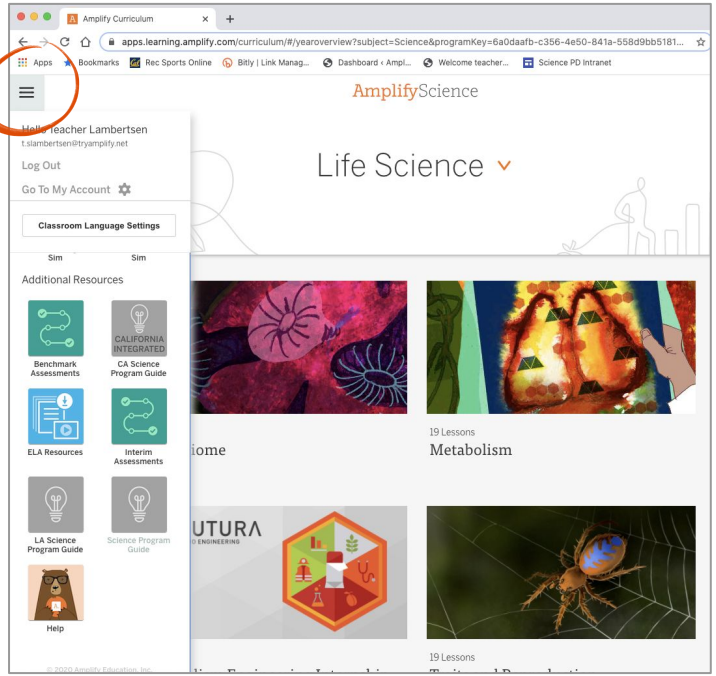
5- I have a solid plan for how to make this work!



Amplify Science Program Hub

A new hub for Amplify Science resources

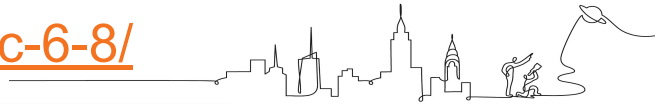
- **Videos and resources to continue getting ready to teach**
- Amplify@Home resources
- Keep checking back for updates

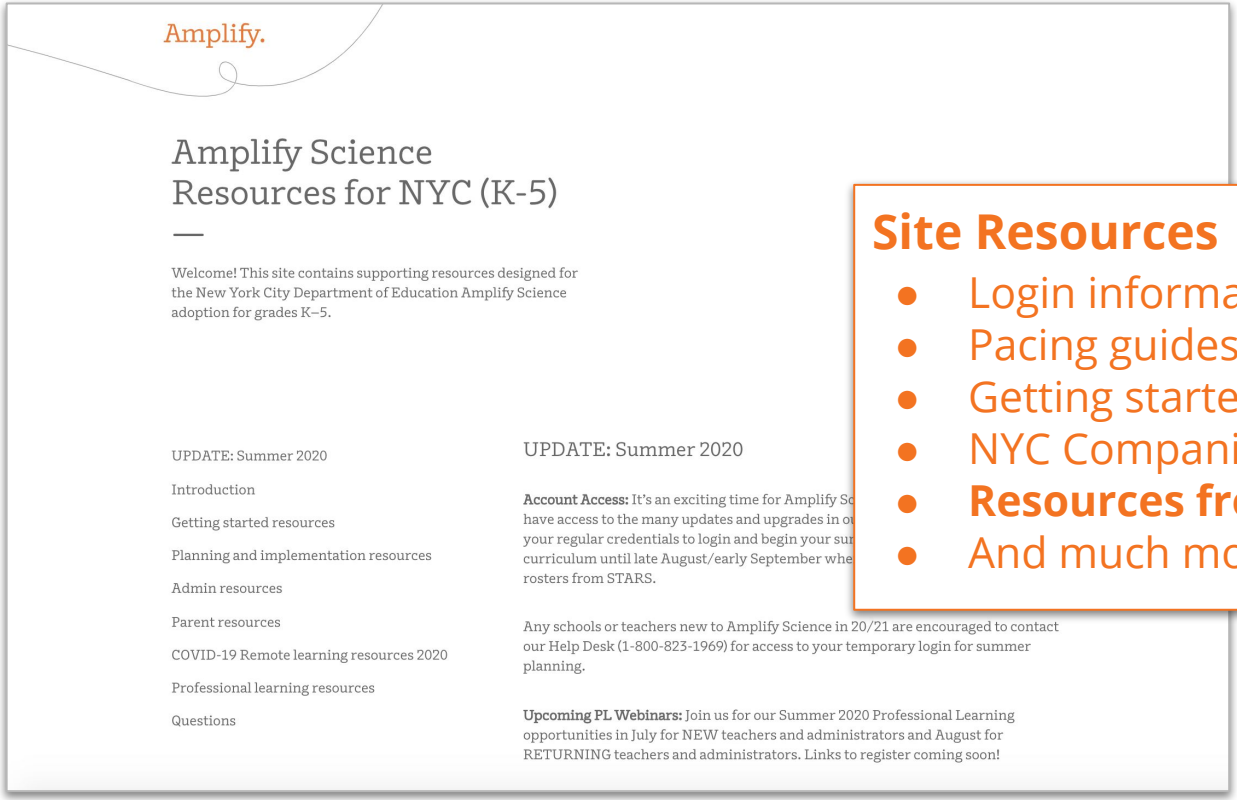


science.amplify.com/programhub

New York City Resources Site

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

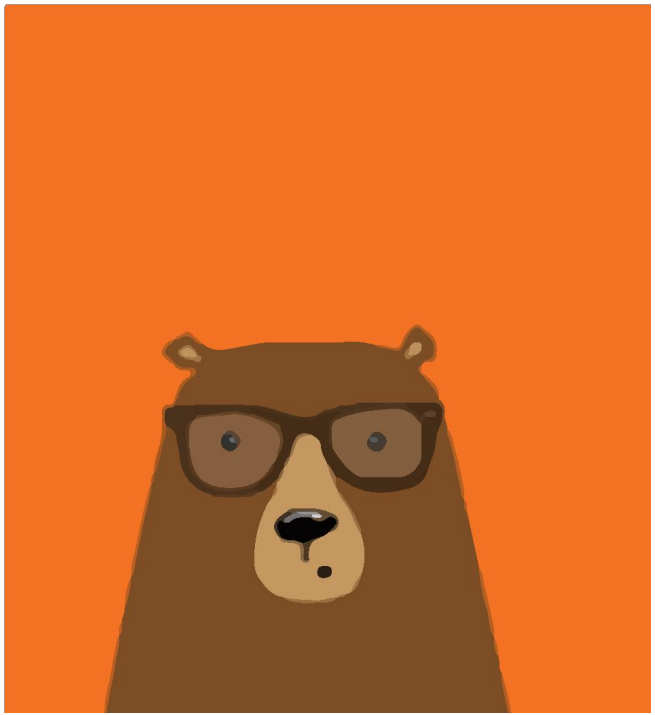




Site Resources

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

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.